BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001



POSTAL RATE AND FEE CHANGES, 1997 Docket No. R97-1

**NOTICE OF THE UNITED STATES POSTAL SERVICE CONCERNING ERRATA TO THE SUPPLEMENTAL TESTIMONY OF WITNESS SMITH (USPS-ST-46) (November 20, 1997)**

In conjunction with the response of witness Marc Smith today to Presiding Officer's Information Request No. 6, Question 1, and his November 17, 1997, response to ANM/USPS-ST46-1, the United States Postal Service hereby files these errata to USPS Library Reference H-111, which is incorporated by reference in the supplemental testimony of witness Smith, USPS-ST-46.

There are two substantive revisions to the calculation of dropship cost avoidances in LR-H-111 which are reflected in the errata pages filed today. Each is described below.

**POIR 6, Q 1**

The revision in the calculation of the nontransportation cost avoidances for Periodicals is in response to Question 1 of POIR 6. An examination of USPS LR H-111, Appendices F and G, concerning Periodicals Regular and Nonprofit dropship nontransportation cost avoidances indicates that the application of witness Bradley's variabilities was not performed correctly. The calculations which are shown in LR-H-111, as originally filed, and as indicated in the Information Request, increase the cost savings due to the application of the variabilities, when the opposite should have been the result. Specifically, the application of the variabilities to the productivities (in page

1, Section 1.0 of Appendices F and G) was performed by multiplying the variabilities and productivities. This lowered the productivities and raised cost savings from dropshipping. The application of the variabilities to the productivities (in page 1 of Appendices F and G) should have been to divide the productivities by the variabilities, the effect of which is to raise the productivities and lower the cost savings. As a consequence, the originally filed cost avoidances were, regrettably, significantly overstated because the productivities were greatly understated. Correcting the productivities (in page 1 of Appendices F and G) leads to a large downward revision in the costs associated with dropshipping cost savings as shown in the additional pages of Appendices F and G.

**ANM/USPS-ST46-1**

In responding to part (h) this question, it was determined that the destination entry profile for Nonprofit mail (from Table 18 of LR-H-195) had been erroneously omitted from the top portions of Tables 1, 2, and 3 in Appendix E of H-111. Only the destination entry profile data for Regular from Table 18 of LR-H-105 was incorporated. The correction of Tables 1, 2, and 3 of Appendix E (H-111) leads to revisions in the costs associated with container handling costs, as calculated in Appendix D (H-111). This results from the probability associated with each operation (column one of the pages in Appendix D) changes. The results of the changes in Appendix D are reflected in the revised pages of Appendix C (H-111). The impact of this change on the cost avoidances is very small. Revised pages are attached. All of revised Appendix D (H-111) is reproduced here to reflect not only the above-referenced changes, but also to reflect a complete pagination of the Appendix.

Finally, in conjunction with the response to part (f) of ANM/USPS-ST46-1, Appendix C, Table 8 is revised so that the notes above the table correctly reflect that it is an input for Table 6.

All substantive changes to H-111 are indicated by shading the affected portions of each revised page.

Respectfully submitted,

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Second, the overview of the methodologies section restates and describes the existing methodologies used to calculate the various cost avoidance estimates. Third, any changes made to the existing methodologies are described. Fourth, the appendices detail all input data and calculations used to develop the cost avoidance estimates.

## 2.0 Results

This section provides a summary of all of the results produced in this analysis. Table 2.1 shows the results for all bulk rate Standard Mail (A); transportation and non-transportation combined. Table 2.2 shows the results for the Periodicals regular rate non-transportation analysis, and Table 2.3 shows the results for the Periodicals nonprofit non-transportation analysis.

### Table 2.1 Standard Mail (A)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination BMC | $0.0904 |
| Destination SCF | $0.1104 |
| Destination Delivery Unit | $0.1378 |

### Table 2.2 Periodicals Regular (Nontransportation)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination SCF | $0.0204 |
| Destination Delivery Unit | $0.0390 |

### Table 2.3 Periodicals Nonprofit (Nontransportation)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination SCF | $0.0189 |
| Destination Delivery Unit | $0.0361 |

In order to derive total nontransportation costs, the origin facility for each of the thirteen flow paths in Appendix A is matched with the appropriate cost per pound from Appendix C. Summing the total handling costs for each flow yields the amount of container handling costs that could be avoided if mailers brought Standard Mail (A) directly to delivery units. After total handling costs are calculated, they are divided by total Standard Mail (A) pounds to obtain an average nontransportation cost of 1.57 cents per pound ($Z^T$). This figure, along with costs from Appendix C and the entry point profile percentages from Appendix A, can then be inserted into the nontransportation equation described earlier.

Once estimates for $Y^{origin}$, $Y^{DBMC}$, $X^{DBMC}$, $Y^{DSCF}$, $X^{DSCF}$, and $Z^T$ are obtained, the equation can be solved to determine the cost avoidance for $X^{origin}$. The value for $X^{origin}$ is the cost avoidance that would be achieved if all mail were dropshipped at the DDU. The nontransportation cost avoidances for DSCF and DBMC are calculated in the same way as in the transportation equation ($DSCF=X^{origin} - X^{SCF}$, $DBMC=X^{origin}-X^{BMC}$). The cost avoidances are 2.71 cents for the DDU, 1.98 cents for the DSCF, and 1.35 cents for the DBMC.

### 3.3 Periodicals Nontransportation Methodology

The methodology for developing the Periodicals dropship cost avoidances is exactly the same as that used by witness Byrne in Docket No. MC95-1 (USPS-T-11). Periodicals that are not entered by mailers at destination SCFs, but rather at origin SCFs or at intermediate facilities such as transfer hubs or area distribution centers, must undergo bulk transfer types of mail processing operations at these non-destination facilities. The Postal Service has estimated in past proceedings (Docket Nos. R84-1, MC95-1, MC96-2) that non-destination SCF zone 1 and 2 Periodicals will always incur one transfer through a non-

destination SCF or ADC/SDC before it is dispatched to its destination SCF. The same estimate is used in this docket.

The types of bulk transfer handlings incurred at non-destination facilities include the unloading of Periodicals containers (pallets, sacks, and "outside bundles") from trucks at inbound docks, movement of these types of containers through the facilities to outbound docks, and finally loading of the containers to trucks at the outbound docks.

The cost avoidance estimates for destination SCF Periodicals in Docket No. MC95-1 incorporated a number of parameters into the cost calculations. These parameters included productivities for BMC and SCF cross-docking operations, container conversion factors, and proportions of volumes in each of three container types. This analysis uses the same productivities, but the container conversion factors, container volume proportions, and other input parameters have been updated.

Appendices F and G of this analysis show the input values and equations used to calculate the cross-docking costs avoided by SCF rate and delivery unit rate Periodicals for both regular rate and nonprofit. Given the estimated proportions of Periodicals in each type of container, the weighted average cost incurred for the SCF cross-docking is estimated to be 1.92 cents per pound for regular rate mail and 1.78 cents per pound for nonprofit mail, while the weighted average cost for the BMC crossdocking is 1.66 cents per pound for regular rate mail and 1.53 cents per pound for nonprofit mail.

Given the estimate that all zone 1 and 2 Periodicals undergoes one transfer hub cross-docking and that 20 percent incurs both a transfer hub and an SCF cross-docking, the estimated total cross-docking cost incurred by zone 1 and 2 regular rate mail (and avoided by SCF rate mail) is 2.04 cents per pound. The estimated

total cross-docking cost incurred by zone 1 and 2 nonprofit mail is 1.89 cents per pound.

The additional cost savings of delivery unit rate mail avoiding a destination SCF handling is also calculated. As already shown, the average cost of one SCF cross-docking is 1.92 cents per pound for regular rate mail and 1.78 cents per pound for nonprofit mail. These costs are adjusted to account for the fact that an estimated 3.14 percent of the mail is dispatched directly from destination BMCs to destination delivery units, thus bypassing destination SCFs.

Therefore, the effective cost of the destination SCF handling avoided by delivery unit rate mail is estimated to be 1.86 cents per pound for regular rate mail and 1.73 cents per pound for nonprofit. The total cost avoidance for delivery unit rate mail is then 3.90 cents per pound for regular rate mail and 3.61 cents per pound for nonprofit mail.

Some of the inputs used in this analysis remain unchanged from witness Byrne's testimony. These include:

1. Productivities (Docket No. R84-1, USPS-T-14).
2. Container Conversion Factors (Docket No. R84-1, Exhibit USPS-T-14-KK).
3. Sack flow percentages (Docket No. R84-1, Exhibit USPS-T-14-II).
4. The proportion of SCFs that are mechanized (Docket No. MC95-1, Exhibit USPS-T-11U, page 2).
5. BMC realization factor (Docket No. R94-1, Tr. 8/4006).
6. The proportion of volume from DBMCs that flows to DDUs via DSCFs (Docket No. R90-1, Exhibit USPS-12B, page 5).

Other inputs have been updated using new inputs developed for Docket No. R97-1. These are:

Appendix C, Table 1

## Standard Mail (A) Aggregate Nontransportation Equation and Results

**Nontransportation Equation:** $(Y^{origin} * X^{origin}) + (Y^{DBMC} * X^{DBMC}) + (Y^{DSCF} * X^{DSCF}) = Z^T$ 1/

$Y^{origin}$: Percentage of mail that is dropshipped or plantloaded to non-destination facilities.
$X^{origin}$: Unit cost to the Postal Service of crossdocking $Y^{origin}$ before it reaches the destination delivery unit.

$Y^{DBMC}$: Percentage of mail that is dropshipped or plantloaded to a destination BMC.
$X^{DBMC}$: Unit cost to the Postal Service of crossdocking $Y^{DBMC}$ before it reaches the destination delivery unit.

$Y^{DSCF}$: Percentage of mail that is dropshipped or plantloaded to a destination SCF.
$X^{DSCF}$: Unit cost to the Postal Service of crossdocking $Y^{DSCF}$ before it reaches the destination delivery unit.

$Z^T$: Unit cost to the Postal Service of crossdocking all Standard Mail (A) before it reaches the destination delivery unit.

**Solving the Equation:**

| | | |
|---|---|---|
| $Y^{origin}$: | 33.55% | 2/ |
| $X^{origin}$: | Solve for this variable. | 3/ |
| $Y^{DBMC}$: | 29.20% | 4/ |
| $X^{DBMC}$: | $0.0136 | 5/ |
| $Y^{DSCF}$: | 36.13% | 6/ |
| $X^{DSCF}$: | $0.0073 | 7/ |
| $Z^T$: | $0.0157 | 8/ |

$X^{origin}$: **$0.0271** 9/

**Cost Avoidances:**

| Point of Dropshipment | Cost Avoidances | |
|---|---|---|
| DDU | $0.0271 | 10/ |
| DSCF | $0.0198 | 11/ |
| DBMC | $0.0135 | 12/ |

1/ For a more detailed explanation of the nontransportation equation, see Docket No. MC95-1, USPS-T-9, page 3. (Originally in Docket No. R90-1, USPS-T-12, p.5.)
2/ This figure is equal to the percentage of mail that is dropshipped to non-destination facilities, plus the percentage of mail that is plantloaded to non-destination facilities. See Table 1.
3/ This variable is unknown. The equation will be solved to find $X^{origin}$.
4/ This figure is equal to the percentage of mail that is dropshipped or plantloaded at DBMCs. See Table 1.
5/ This figure is equal to Cost per Pound of crossdocking the above mail before it reaches the DDU. See Docket No. MC95-1, USPS-T-9, p.12. (Originally in Docket No. R90-1, Exhibit USPS-12B, p.3.)
6/ This figure is equal to the percentage of mail that is dropshipped or plantloaded at DSCFs. See Table 1.
7/ This figure is the crossdocknq Cost per Pound of DSCF mail before it reaches the DDU. See Table 7.
8/ $Z^T$ is the unit cost to the Postal Service of handling all Standard Mail (A) at the DDU. See Table 4.
9/ In solving the equation, $X^{origin}$ is equal to this figure.
10/ Equals 9/.
11/ 9/ minus 7/ gives the cost avoidance for dropshipping to a DSCF.
12/ 9/ minus 5/ gives the cost avoidance for dropshipping to a DBMC.

**Appendix C, Table 2**
**Test Year Cost per Pound to Handle Containerized Mail at Various Facilities**

| Facility Type | Cost per Pound (cents)[1] |
|---|---|
| Origin AO, Station, or Branch | 0.09 |
| Origin SCF | 1.06 |
| Origin BMC | 1.43 |
| Destinating BMC | 0.66 |
| Destinating SCF | 0.73 |

1. Appendix C, Table 7.

**Appendix C, Table 3**
**Calculation of Total Handling Costs on all Flow Paths**

| Flow Number | Number of Pounds on Flowpath (000s)[1] | Facility Where Mail is Crossdocked | Cost of Crossdocking[2] | Total Handling Costs (000s)[3] |
|---|---|---|---|---|
| 1 | 5,670 | OAO | $0.0009 | $5 |
| 2 | 174,902 | OAO | $0.0009 | $149 |
| 3 | 177,706 | OAO | $0.0009 | $151 |
| 4 | 59,954 | OAO | $0.0009 | $51 |
| 5 | 44,660 | OAO | $0.0009 | $38 |
| 6 | 432,052 | OSCF | $0.0106 | $4,569 |
| 7 | 580,016 | OSCF | $0.0106 | $6,134 |
| 8 | 307,701 | OSCF | $0.0106 | $3,254 |
| 9 | 9,975 | OSCF | $0.0106 | $105 |
| 10 | 2,397,161 | OBMC | $0.0143 | $34,224 |
| 11 | 5,626,328 | DBMC | $0.0066 | $36,863 |
| 12 | 182,394 | DBMC | $0.0066 | $1,195 |
| 13 | 9,740,335 | DSCF | $0.0073 | $70,698 |
| TOTAL | | | | $157,437 |

1. Appendix A, Table 4.
2. Appendix C, Table 2 divided by 100.
3. Number of pounds per flowpath multiplied by the cost of crossdocking.

**Appendix C, Table 4**

**Calculation of Bulk Standard Mail (A) Nontransportation Unit Costs**

| | | |
|---|---|---|
| Total TY Bulk Rate Pieces | 80,038,470,000 [1] | |
| Total BY Bulk Rate Pieces | 71,540,327,918 [2] | |
| Total BY Bulk Rate Pounds | 8,983,087,856 [3] | |
| BY Pieces per Pound | 7.963890 [4] | |
| Total TY Pounds | | 10,050,172,103 [5] |

Average Non-Transportation Cost Per Pound

| | |
|---|---|
| TY Handling Costs | $157,437,162 [6] |
| Total TY Pounds | 10,050,172,103 [5] |
| Average TY Cost Per Pound | 0.0157 [7] |

1. Test Year Bulk Rate Pieces from Exhibit USPS-6A.
2. Base Year Bulk Rate Pieces from 1996 RPW.
3. Base Year Bulk Rate Pounds from 1996 RPW.
4. Base Year Pieces (2) divided by Base Year Pounds (3).
5. Test Year Bulk Rate Pieces (1) divided by Base Year Pieces per Pound (4).
6. Appendix C, Table 3.
7. Test Year Handling Costs (6) divided by Total Test Year Pounds (5).

## *Appendix C, Tables 5-7*
## Calculation of Nontransportation Costs
## By Container Type and By Facility

For the purposes of this study, there are fifteen possible facility/container combinations for which costs need to be estimated. Appendix D of this document contains 15 mail flow models, one for each of the facility/container scenarios. The models show the operations needed to process a container from the point that it is unloaded at the incoming dock to the point that it is loaded onto an outgoing vehicle. A total time to process a particular container through a specific facility is arrived at by weight-averaging the time needed to perform each required operation on the basis of such factors as the source of the mail at the facility's unloading dock, the likelihood that a container will be sorted on a sack sorting machine, and the proportion of volume that will receive a direct runout onto a vehicle as opposed to a sort in a sawtooth operation prior to being loaded.
Because engineering standards were used to estimate the time needed for each operation, the following factors were multiplied by\ the weight-averaged time (and thus cost) per container/facility to align the result with postal costs as determined by the CRA: a P, F, & D factor of 1.15%, a mail processing overhead factor, an appropriate piggyback factor, a BMC realization factor (.9713) for application to BMC costs only, and an FY 1998 clerk/mailhandler average hourly wage rate that is multiplied by a premium pay factor and divided by 60 (the minutes in an hour).
Finally, the resulting cost per container is divided by the average weight of that container to obtain an overall cost per pound for each container/facility combination. The following costs per pound were generated from Appendix D of this document:

**TABLE 5**

| | SACK | TRAY | PALLET |
|---|---|---|---|
| Originating AO | $0.000301 | $0.001341 | $0.002213 |
| Originating SCF | $0.004077 | $0.016303 | $0.005726 |
| *Originating BMC* | *$0.015536* | *$0.022877* | *$0.004701* |
| Destinating BMC | $0.014555 | $0.018507 | $0.003374 |
| Destinating SCF | $0.016796 | $0.020725 | $0.004331 |

The above costs must be weight-averaged in order to obtain an overall cost per facility. Table 6 below provides the requisite proportions for weighting the container costs for each facility type. The pound volumes shown in Table 6 were derived from Table 8 of this appendix from data from USPS LR-H-105 and USPS LR-H-195.

**TABLE 6**

| | SACK | TRAY | PALLET | TOTAL |
|---|---|---|---|---|
| Originating AO | 204,902,467<br>49.52% | 196,955,440<br>47.60% | 11,886,144<br>2.87% | 413,744,050 |
| Originating SCF | 387,250,006<br>37.61% | 447,860,624<br>43.49% | 194,608,635<br>18.90% | 1,029,719,264 |
| Originating BMC | 402,435,365<br>25.62% | 587,549,158<br>37.41% | 580,635,604<br>36.97% | 1,570,620,128 |
| Destinating BMC | 434,496,389<br>16.56% | 229,766,275<br>8.76% | 1,958,977,122<br>74.68% | 2,623,239,787 |
| Destinating SCF | 170,943,451<br>5.27% | 449,607,980<br>13.85% | 2,625,285,213<br>80.88% | 3,245,836,644 |

The results of weight-averaging, by facility, the costs per container shown in Table 5 by the appropriate proportions in Table 6 are shown below in column (a).

**TABLE 7**

| | (a) | | (b) |
|---|---|---|---|
| Originating AO | 0.000851 | or | 0.09 cents |
| Originating SCF | 0.010576 | or | 1.06 cents |
| Originating BMC | 0.014277 | or | 1.43 cents |
| Destinating BMC | 0.006552 | or | 0.66 cents |
| Destinating SCF | 0.007258 | or | 0.73 cents |

**Appendix C, Table 8**

**Breakout of Base Year Standard Mail (A) Pounds**
**By Container Type and By Facility**

The pieces and pounds totals were taken from an entry point profile provided by Christensen Associates (USPS LR-H-105 and USPS LR-H-195). The "pound" profiles generated are used in Table 6 of this appendix to weight the facility/container costs shown in Table 5 on that same page.

| | PIECES | | | POUNDS | | |
|---|---|---|---|---|---|---|
| | SACK | TRAY | PALLET | SACK | TRAY | PALLET |
| ORIGINATING DU | 681,202,424 | 3,160,812,383 | 228,027,328 | 204,902,467 | 196,955,440 | 11,886,144 |
| ORIGINATNG SCF | 1,849,919,491 | 7,745,831,421 | 1,598,326,604 | 387,250,006 | 447,860,624 | 194,608,635 |
| ORIGINATING BMC | 2,521,586,850 | 7,627,876,102 | 5,280,918,383 | 402,435,365 | 587,549,158 | 580,635,604 |
| DESTINATING BMC | 2,400,645,147 | 2,148,674,772 | 12,788,791,861 | 434,496,389 | 229,786,275 | 1,958,977,122 |
| DESTINATING SCF | 1,065,188,921 | 4,821,473,679 | 16,307,020,379 | 170,843,451 | 449,607,980 | 2,625,285,213 |
| DESTINATING DU | 76,196,414 | 767,258,349 | 470,577,411 | 10,710,735 | 34,511,920 | 54,705,328 |
| TOTALS | 8,594,739,246 | 26,271,926,705 | 36,673,661,966 | 1,610,738,413 | 1,946,251,397 | 5,426,098,046 |

## Appendix D
## MTM Productivity Mail Flow Models for Facility/Container Scenarios

**Orig AO Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer load sacks on APC | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Transport APC to van and load | 100.00% | 0.0123 | 0.0123 | 1.15 | 1.201 | 1.844 | 0.0313 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.0123 |
| Total Minutes per Sack: | 0.0313 |
| Cost per Pound: | 0.000301 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer load sacks, move APC to staging | 76.90% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Move APC to dock (stage) | 76.90% | 0.0571 | 0.0439 | 1.15 | 1.539 | 1.405 | 0.1093 |
| | Load APC on van | 76.90% | 0.0140 | 0.0108 | 1.15 | 1.539 | 1.844 | 0.0352 |
| Service Area: | MHs unload APC to staging | 23.10% | 0.0129 | 0.0030 | 1.15 | 1.539 | 1.844 | 0.0097 |
| | Move APC to sort area | 23.10% | 0.0286 | 0.0066 | 1.15 | 1.539 | 1.405 | 0.0164 |
| | Sort sacks into rolling containers | 23.10% | 0.1469 | 0.0339 | 1.15 | 1.559 | 1.610 | 0.0979 |
| | Move APC to dock (stage) | 23.10% | 0.0286 | 0.0066 | 1.15 | 1.539 | 1.405 | 0.0164 |
| | Load APC on van | 23.10% | 0.0140 | 0.0032 | 1.15 | 1.539 | 1.844 | 0.0106 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.1081 |
| Total Minutes per Sack: | 0.2955 |
| Cost per Pound: | 0.004077 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer-Orig: | Mailer unload to conveyor (No USPS assistance) | 7.34% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| Plantload: | USPS unload to conveyor | 56.32% | 0.0847 | 0.0477 | 1.15 | 1.466 | 2.125 | 0.1710 |
| Service Area: | USPS unload APC to staging | 36.34% | 0.0102 | 0.0037 | 1.15 | 1.466 | 2.125 | 0.0133 |
| | Move APC to SSM induction | 36.34% | 0.0209 | 0.0076 | 1.15 | 1.466 | 1.405 | 0.0180 |
| | Manually dump sack to SSM | 3.63% | 0.1799 | 0.0065 | 1.15 | 1.408 | 2.414 | 0.0256 |
| | Key sack at SSM | 100.00% | 0.0779 | 0.0779 | 1.15 | 1.408 | 2.414 | 0.3045 |
| | Direct runout to van | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload sacks from conveyor | 100.00% | 0.0981 | 0.0981 | 1.15 | 1.466 | 2.125 | 0.3515 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.2416 |
| Total Minutes per Sack: | 0.8838 |
| Cost per Pound: | 0.015536 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer-Dest: | Mailer unload to conveyor (50% USPS assistance) | 33.44% | 0.0424 | 0.0142 | 1.15 | 1.466 | 2.125 | 0.0508 |
| OBMC and Plantload: | USPS unload to conveyor | 52.74% | 0.0847 | 0.0447 | 1.15 | 1.466 | 2.125 | 0.1601 |
| Service Area: | USPS unload APC to staging | 13.83% | 0.0102 | 0.0014 | 1.15 | 1.466 | 2.125 | 0.0051 |
| | Move APC to SSM induction | 13.63% | 0.0209 | 0.0029 | 1.15 | 1.466 | 1.405 | 0.0068 |
| | Manually dump sack to SSM | 1.38% | 0.1799 | 0.0025 | 1.15 | 1.408 | 2.414 | 0.0097 |
| | Key sack at SSM | 100.00% | 0.0779 | 0.0779 | 1.15 | 1.408 | 2.414 | 0.3045 |
| | Direct runout to van | 71.77% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload sacks from conveyor | 71.77% | 0.0981 | 0.0704 | 1.15 | 1.466 | 2.125 | 0.2522 |
| | Direct runout to container | 1.75% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 26.48% | 0.1641 | 0.0435 | 1.15 | 1.559 | 1.610 | 0.1254 |
| | Move APC to dock staging | 28.23% | 0.0209 | 0.0059 | 1.15 | 1.466 | 1.405 | 0.0140 |
| | Load APC on van | 28.23% | 0.0102 | 0.0029 | 1.15 | 1.466 | 2.125 | 0.0103 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.2662 |
| Total Minutes per Sack: | 0.9390 |
| Cost per Pound: | 0.014555 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer unload APC to staging | 10.98% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| Service Area: | USPS unload APC to staging | 11.91% | 0.0129 | 0.0015 | 1.15 | 1.539 | 1.844 | 0.0050 |
| BMC (APC): | USPS unload APC to staging | 20.42% | 0.0140 | 0.0029 | 1.15 | 1.539 | 1.844 | 0.0093 |
| BMC (bedload) and PL: | Move APC on/off van | 50.38% | 0.0140 | 0.0071 | 1.15 | 1.539 | 1.844 | 0.0230 |
| | Load sacks on APC | 50.38% | 0.0855 | 0.0431 | 1.15 | 1.539 | 1.844 | 0.1406 |
| | USPS unload to conveyor | 6.31% | 0.1161 | 0.0073 | 1.15 | 1.539 | 1.844 | 0.0239 |
| | Move APC to SSM induction | 4.82% | 0.0286 | 0.0014 | 1.15 | 1.539 | 1.405 | 0.0034 |
| | Manually induct sack into SSM | 4.82% | 0.1799 | 0.0087 | 1.15 | 1.408 | 1.942 | 0.0273 |
| | Key sack at SSM | 11.13% | 0.0908 | 0.0101 | 1.15 | 1.408 | 1.942 | 0.0318 |
| | Direct runout to container | 8.18% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.942 | 0.0000 |
| | Move APC to dock, staging | 8.18% | 0.0390 | 0.0032 | 1.15 | 1.539 | 1.405 | 0.0079 |
| | Load AOC on van | 8.18% | 0.0129 | 0.0011 | 1.15 | 1.539 | 1.844 | 0.0034 |
| | Sort at sawtooth to APCs | 2.95% | 0.1641 | 0.0048 | 1.15 | 1.559 | 1.610 | 0.0140 |
| | Move APC to dock staging | 2.95% | 0.0286 | 0.0008 | 1.15 | 1.539 | 1.405 | 0.0021 |
| | Load APC on van | 2.95% | 0.0129 | 0.0004 | 1.15 | 1.539 | 1.844 | 0.0012 |
| | Move APC to sort area, stage | 88.87% | 0.0286 | 0.0254 | 1.15 | 1.539 | 1.405 | 0.0632 |
| | Unload APC, osrt sacks | 88.87% | 0.1469 | 0.1305 | 1.15 | 1.559 | 1.610 | 0.3767 |
| | Unload APC, sort sacks | 23.53% | 0.1469 | 0.0346 | 1.15 | 1.559 | 1.610 | 0.0998 |
| | Move APC to dock, staging | 88.87% | 0.0286 | 0.0254 | 1.15 | 1.539 | 1.405 | 0.0632 |
| | Load APC on van | 88.87% | 0.0129 | 0.0114 | 1.15 | 1.539 | 1.844 | 0.0373 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.3197 |
| Total Minutes per Sack: | 0.9332 |
| Cost per Pound: | 0.016796 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig AO Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer load sacks on APC | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Transport APC to van and Load | 100.00% | 0.0152 | 0.0152 | 1.15 | 1.201 | 1.844 | 0.0387 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.0152 |
| Total Minutes per Tray: | 0.0387 |
| Cost per Pound: | 0.001341 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer unload trays to APC to staging | 81.75% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Move APC to dock (stage) | 24.55% | 0.0709 | 0.0174 | 1.15 | 1.539 | 1.405 | 0.0433 |
| | Move APC to sort/band area | 53.51% | 0.0354 | 0.0190 | 1.15 | 1.539 | 1.405 | 0.0471 |
| | Band the trays | 53.51% | 0.1204 | 0.0644 | 1.15 | 1.374 | 1.405 | 0.1430 |
| | Move APC to dock (stage) | 53.51% | 0.0354 | 0.0190 | 1.15 | 1.539 | 1.405 | 0.0471 |
| | Load APC on van | 81.75% | 0.0174 | 0.0142 | 1.15 | 1.539 | 1.844 | 0.0463 |
| Service Area: | MHs unload APC to staging | 18.25% | 0.0159 | 0.0029 | 1.15 | 1.539 | 1.844 | 0.0095 |
| | Move APC to sort area | 18.25% | 0.0354 | 0.0065 | 1.15 | 1.539 | 1.405 | 0.0161 |
| | Sort trays into rolling containers | 18.25% | 0.1469 | 0.0268 | 1.15 | 1.559 | 1.610 | 0.0774 |
| | Band the trays | 12.77% | 0.1204 | 0.0154 | 1.15 | 1.374 | 1.405 | 0.0341 |
| | Move APC to dock (stage) | 18.25% | 0.0354 | 0.0065 | 1.15 | 1.539 | 1.405 | 0.0161 |
| | Load APC on van | 18.25% | 0.0174 | 0.0032 | 1.15 | 1.539 | 1.844 | 0.0103 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.1951 |
| Total Minutes per Tray: | 0.4903 |
| Cost per Pound: | 0.018303 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer & Plantload: | USPS unload pallet | 5.66% | 0.0136 | 0.0008 | 1.15 | 1.466 | 2.125 | 0.0028 |
| | Move pallet to SSM induction | 4.47% | 0.0119 | 0.0005 | 1.15 | 1.466 | 1.405 | 0.0013 |
| | Manually dump tray to SSM | 2.24% | 0.1635 | 0.0037 | 1.15 | 1.408 | 2.414 | 0.0143 |
| | Key tray at SSM | 4.47% | 0.0779 | 0.0035 | 1.15 | 1.408 | 2.414 | 0.0136 |
| | Direct runout to van | 4.47% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 4.47% | 0.0766 | 0.0034 | 1.15 | 1.466 | 2.125 | 0.0123 |
| | Move pallet to NMO roller, stage | 1.19% | 0.0119 | 0.0001 | 1.15 | 1.466 | 1.405 | 0.0003 |
| | Unload pallet, sort trays | 1.19% | 0.1469 | 0.0017 | 1.15 | 1.559 | 1.610 | 0.0050 |
| | Move APC to dock | 1.19% | 0.0259 | 0.0003 | 1.15 | 1.466 | 1.405 | 0.0007 |
| | Load APC on van | 1.19% | 0.0127 | 0.0002 | 1.15 | 1.466 | 2.125 | 0.0005 |
| | Bedload trays on van | 1.19% | 0.1398 | 0.0017 | 1.15 | 1.408 | 2.125 | 0.0057 |
| Service Area: | USPS unload APC to staging | 94.34% | 0.0127 | 0.0119 | 1.15 | 1.466 | 2.125 | 0.0428 |
| | Move APCt to SSM induction | 74.52% | 0.0259 | 0.0193 | 1.15 | 1.466 | 1.405 | 0.0457 |
| | Manually dump tray to SSM | 7.45% | 0.1398 | 0.0104 | 1.15 | 1.408 | 2.414 | 0.0407 |
| | Key tray at SSM | 74.52% | 0.0779 | 0.0581 | 1.15 | 1.408 | 2.414 | 0.2269 |
| | Direct runout to van | 74.52% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 74.52% | 0.0766 | 0.0571 | 1.15 | 1.466 | 2.125 | 0.2046 |
| | Move pallet to NMO roller, stage | 19.82% | 0.0483 | 0.0096 | 1.15 | 1.466 | 1.405 | 0.0227 |
| | Unload APC, sort trays | 19.82% | 0.1469 | 0.0291 | 1.15 | 1.559 | 1.610 | 0.0840 |
| | Move APC to dock, staging | 19.82% | 0.0259 | 0.0051 | 1.15 | 1.466 | 1.405 | 0.0121 |
| | Load APC on van | 19.82% | 0.0127 | 0.0025 | 1.15 | 1.466 | 2.125 | 0.0090 |
| | Bedload trays on van | 19.82% | 0.1398 | 0.0277 | 1.15 | 1.408 | 2.125 | 0.0953 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.2467 |
| Total Minutes per Tray: | 0.8405 |
| Cost per Pound: | 0.022877 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| OBMC: | Unload trays to conveyor | 52.74% | 0.0561 | 0.0296 | 1.15 | 1.466 | 2.125 | 0.1069 |
| | Conveyor to SSM | 52.74% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Key trays at SSM | 52.74% | 0.0779 | 0.0411 | 1.15 | 1.408 | 2.414 | 0.1606 |
| | Direct runout to van | 37.85% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 37.85% | 0.0766 | 0.0290 | 1.15 | 1.466 | 2.125 | 0.1039 |
| | Direct runout to container | 0.92% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 13.96% | 0.1557 | 0.0217 | 1.15 | 1.559 | 1.610 | 0.0626 |
| | Move APC to dock staging | 14.59% | 0.0259 | 0.0038 | 1.15 | 1.466 | 1.405 | 0.0091 |
| | Load APC on van | 14.59% | 0.0127 | 0.0019 | 1.15 | 1.466 | 2.125 | 0.0068 |
| | Load trays on APC | 14.03% | 0.0543 | 0.0076 | 1.15 | 1.466 | 2.125 | 0.0273 |
| | Stack trays on van | 14.03% | 0.1398 | 0.0196 | 1.15 | 1.408 | 2.125 | 0.0675 |
| | Unload APC to staging | 14.03% | 0.0127 | 0.0018 | 1.15 | 1.466 | 2.125 | 0.0064 |
| | Move APC to NMO roller, stage | 14.03% | 0.0259 | 0.0036 | 1.15 | 1.466 | 1.405 | 0.0086 |
| | Unload APC, sort trays | 14.03% | 0.1469 | 0.0206 | 1.15 | 1.559 | 1.610 | 0.0595 |
| | Unload APC, sort trays | 3.71% | 0.1469 | 0.0055 | 1.15 | 1.559 | 1.610 | 0.0157 |
| | Move APC to dock, staging | 14.03% | 0.0259 | 0.0036 | 1.15 | 1.466 | 1.405 | 0.0086 |
| | Load AOC on van | 14.03% | 0.0127 | 0.0018 | 1.15 | 1.466 | 2.125 | 0.0064 |
| Mailer & Plantload: | USPS unload pallet | 16.38% | 0.0136 | 0.0022 | 1.15 | 1.466 | 2.125 | 0.0080 |
| | Move pallet to SSM induction | 12.94% | 0.0119 | 0.0015 | 1.15 | 1.466 | 1.405 | 0.0036 |
| | Manually dump tray to SSM | 6.47% | 0.1635 | 0.0106 | 1.15 | 1.408 | 2.414 | 0.0414 |
| | Key tray at SSM | 12.94% | 0.0779 | 0.0101 | 1.15 | 1.408 | 2.414 | 0.0394 |
| | Direct runout to van | 9.29% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 9.29% | 0.0766 | 0.0071 | 1.15 | 1.466 | 2.125 | 0.0255 |
| | Direct runout to container | 0.23% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 3.43% | 0.1557 | 0.0053 | 1.15 | 1.559 | 1.610 | 0.0154 |
| | Move APC to dock staging | 3.65% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Load APC on van | 3.65% | 0.0127 | 0.0005 | 1.15 | 1.466 | 2.125 | 0.0017 |
| | Move pallet to NMO roller, stage | 3.44% | 0.0119 | 0.0004 | 1.15 | 1.466 | 1.405 | 0.0010 |
| | Unload pallet, sort trays | 3.44% | 0.1469 | 0.0051 | 1.15 | 1.559 | 1.610 | 0.0146 |
| | Unload pallet, sort trays | 0.91% | 0.1469 | 0.0013 | 1.15 | 1.559 | 1.610 | 0.0039 |
| | Move APC to dock | 3.44% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0021 |
| | Load APC on van | 3.44% | 0.0127 | 0.0004 | 1.15 | 1.466 | 2.125 | 0.0016 |
| Service Area: | USPS unload APC to staging | 16.85% | 0.0127 | 0.0021 | 1.15 | 1.466 | 2.125 | 0.0076 |
| | Move APCt to SSM induction | 13.31% | 0.0259 | 0.0034 | 1.15 | 1.466 | 1.405 | 0.0082 |
| | Manually dump tray to SSM | 1.33% | 0.1398 | 0.0019 | 1.15 | 1.408 | 2.414 | 0.0073 |
| | Key tray at SSM | 13.31% | 0.0779 | 0.0104 | 1.15 | 1.408 | 2.414 | 0.0405 |
| | Direct runout to van | 9.55% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 9.55% | 0.0766 | 0.0073 | 1.15 | 1.466 | 2.125 | 0.0262 |
| | Direct runout to container | 0.23% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 3.52% | 0.1557 | 0.0055 | 1.15 | 1.559 | 1.610 | 0.0158 |
| | Move APC to dock staging | 3.76% | 0.0259 | 0.0010 | 1.15 | 1.466 | 1.405 | 0.0023 |
| | Load APC on van | 3.76% | 0.0127 | 0.0005 | 1.15 | 1.466 | 2.125 | 0.0017 |
| | Move APC to NMO roller, stage | 3.54% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Unload APC, sort trays | 3.54% | 0.1469 | 0.0052 | 1.15 | 1.559 | 1.610 | 0.0150 |
| | Unload APC, sort trays | 0.94% | 0.1469 | 0.0014 | 1.15 | 1.559 | 1.610 | 0.0040 |
| | Move APC to dock, staging | 3.54% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Load APC on van | 3.54% | 0.0127 | 0.0004 | 1.15 | 1.466 | 2.125 | 0.0016 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.2786 |
| Total Minutes per Tray: | 0.9439 |
| Cost per Pound: | 0.018507 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer unload APC to staging | 23.96% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.844 | 0.0000 |
| Service Area: | USPS unload APC to staging | 10.48% | 0.0159 | 0.0017 | 1.15 | 1.539 | 1.844 | 0.0054 |
| BMC(APC): | USPS unload APC to staging | 25.28% | 0.0174 | 0.0044 | 1.15 | 1.539 | 1.844 | 0.0143 |
| BMC (bedload & PL): | Move APC on/off van to staging | 33.35% | 0.0174 | 0.0058 | 1.15 | 1.539 | 1.844 | 0.0189 |
| | Load trays on APC | 33.35% | 0.0743 | 0.0248 | 1.15 | 1.539 | 1.844 | 0.0809 |
| | USPS unload to conveyor | 1.73% | 0.0768 | 0.0013 | 1.15 | 1.539 | 1.844 | 0.0043 |
| | Move APC to SSM induction | 3.20% | 0.0354 | 0.0011 | 1.15 | 1.539 | 1.405 | 0.0028 |
| | Manually dump sack to SSM | 3.20% | 0.1398 | 0.0045 | 1.15 | 1.408 | 1.942 | 0.0141 |
| | Key tray at SSM | 4.93% | 0.0908 | 0.0045 | 1.15 | 1.408 | 1.942 | 0.0141 |
| | Direct runout to container | 3.62% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.942 | 0.0000 |
| | Move APC to dock staging | 3.62% | 0.0483 | 0.0018 | 1.15 | 1.539 | 1.405 | 0.0044 |
| | Load APC on van | 3.62% | 0.0159 | 0.0006 | 1.15 | 1.539 | 1.844 | 0.0019 |
| | Sort at sawtooth to APCs | 1.31% | 0.1557 | 0.0020 | 1.15 | 1.559 | 1.610 | 0.0059 |
| | Move APC to dock staging | 1.31% | 0.0354 | 0.0005 | 1.15 | 1.539 | 1.405 | 0.0012 |
| | Load APC on van | 1.31% | 0.0159 | 0.0002 | 1.15 | 1.539 | 1.844 | 0.0007 |
| | Move pallet to NMO roller, stage | 95.07% | 0.0354 | 0.0337 | 1.15 | 1.539 | 1.405 | 0.0838 |
| | Unload APC, sort trays | 95.07% | 0.1469 | 0.1396 | 1.15 | 1.559 | 1.610 | 0.4030 |
| | Unload APC, sort trays | 25.17% | 0.1469 | 0.0370 | 1.15 | 1.559 | 1.610 | 0.1067 |
| | Move APC to dock | 95.07% | 0.0354 | 0.0337 | 1.15 | 1.539 | 1.405 | 0.0838 |
| | Load APC on van | 95.07% | 0.0159 | 0.0151 | 1.15 | 1.539 | 1.844 | 0.0493 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.3121 |
| Total Minutes per Tray: | 0.8953 |
| Cost per Pound: | 0.020725 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig AO Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer Unload to staging | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.844 | 0.0000 |
| | USPS load with pallet jack | 100.00% | 0.6426 | 0.6426 | 1.15 | 1.201 | 1.844 | 1.6366 |

| | |
|---|---|
| MTM Minutes per Pallet: | 0.6426 |
| Total Minutes per Pallet: | 1.6366 |
| Cost per Pound: | 0.002213 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, *USPS-LR-PRR-7*).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 1.0075 | 1.0075 | 1.15 | 1.539 | 1.844 | 3.2880 |
| | Crossdock | 100.00% | 1.4305 | 1.4305 | 1.15 | 1.539 | 1.405 | 3.5572 |
| | Load | 100.00% | 0.9331 | 0.9331 | 1.15 | 1.539 | 1.844 | 3.0451 |

| | |
|---|---|
| MTM Minutes per Pallet: | 3.3710 |
| Total Minutes per Pallet: | 9.8903 |
| Cost per Pound: | 0.005726 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 0.7355 | 0.7355 | 1.15 | 1.466 | 2.125 | 2.6349 |
| | Crossdock | 100.00% | 1.0443 | 1.0443 | 1.15 | 1.466 | 1.405 | 2.4737 |
| | Load | 100.00% | 0.6812 | 0.6812 | 1.15 | 1.466 | 2.125 | 2.4403 |

| | |
|---|---|
| MTM Minutes per Pallet: | 2.4609 |
| Total Minutes per Pallet: | 7.5488 |
| Cost per Pound: | 0.004701 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 0.7355 | 0.7355 | 1.15 | 1.466 | 2.125 | 2.6349 |
| | Crossdock | 100.00% | 1.0443 | 1.0443 | 1.15 | 1.466 | 1.405 | 2.4737 |
| | Load | 100.00% | 0.6812 | 0.6812 | 1.15 | 1.466 | 2.125 | 2.4403 |

| | |
|---|---|
| MTM Minutes per Pallet: | 2.4609 |
| Total Minutes per Pallet: | 7.5488 |
| Cost per Pound: | 0.003374 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 1.0075 | 1.0075 | 1.15 | 1.539 | 1.844 | 3.2880 |
| | Crossdock | 100.00% | 1.4305 | 1.4305 | 1.15 | 1.539 | 1.405 | 3.5572 |
| | Load | 100.00% | 0.9331 | 0.9331 | 1.15 | 1.539 | 1.844 | 3.0451 |

| | |
|---|---|
| MTM Minutes per Pallet: | 3.3710 |
| Total Minutes per Pallet: | 9.8903 |
| Cost per Pound: | 0.004331 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Appendix E, Table 1**
**Computation of Input Percentages for Sack Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.1257 | + | 0.0015 | = | 0.1272 | 202,484,797 | + | 2,417,670 | = | 204,902,467 |
| OSCF | 0.2224 | + | 0.0180 | = | 0.2404 | 358,265,784 | + | 28,984,222 | = | 387,250,006 |
| OBMC | 0.0288 | + | 0.2210 | = | 0.2498 | 46,406,231 | + | 356,029,134 | = | 402,435,365 |
| DBMC | 0.2570 | + | 0.0128 | = | 0.2697 | 413,884,240 | + | 20,612,149 | = | 434,496,389 |
| DSCF | 0.1060 | + | 0.0001 | = | 0.1061 | 170,814,469 | + | 128,982 | = | 170,943,451 |
| DAO | 0.0066 | + | 0.0000 | = | 0.0066 | 10,710,735 | + | 0 | = | 10,710,735 |
| Totals | 0.7486 | | 0.2534 | | 1.0000 | 1,202,566,256 | | 408,172,157 | | 1,610,738,413 |

| Origin | By Volume | Proportions | | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|---|
| OAO | 204,902,467 | 0.7740 | 0.5040 | 0.0314 | 0.0122 | 2,509,853 | DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.9686 | 0.3778 | 77,421,779 | DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | | 0.3839 | 78,662,877 | OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | | 0.1295 | 26,539,090 | OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | | 0.0965 | 19,768,867 | DBMC | 5 | Intra-BMC |
| OSCF | 465,912,883 | 0.7611 | 0.4269 | | 0.3249 | 151,381,427 | DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | | 0.4362 | 203,224,868 | OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | | 0.2314 | 107,811,561 | DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | | 0.0075 | 3,495,027 | DAO | 9 | Inter-SCF |
| OBMC | 632,199,323 | 1.0000 | | | 1.0000 | 632,199,323 | DBMC | 10 | Inter-BMC |
| DBMC | 1,237,846,007 | 0.9686 | | | 0.9686 | 1,198,977,642 | DSCF | 11 | Intra-BMC |
| | | 0.0314 | | | 0.0314 | 38,868,365 | DAO | 12 | Intra-BMC |
| DSCF | 1,369,921,093 | 1.0000 | | | 1.0000 | 1,369,921,093 | DAO | 13 | Intra-SCF |
| | 185,233,340 | 1.0000 | | | | 185,233,340 | DAO | 13 | Intra-SCF |
| DAO | 1,610,738,413 | 0.0000 | | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 358,265,784 | 76.90% |
| | Service Area | 107,647,098 | 23.10% |
| | Total | 465,912,883 | 100.00% |
| OBMC | Mailer | 46,406,231 | 7.34% |
| | Plantload | 356,029,134 | 56.32% |
| | Service Area | 229,763,958 | 36.34% |
| | Total | 632,199,323 | 100.00% |
| DBMC | Mailer | 413,884,240 | 33.44% |
| | Plantload | 20,612,149 | 1.67% |
| | Service Area | 171,150,294 | 13.83% |
| | OBMC | 632,199,323 | 51.07% |
| | Total | 1,237,846,007 | 100.00% |
| DSCF | Mailer | 170,814,469 | 10.95% |
| | Service Area | 185,233,340 | 11.91% |
| | Plantload | 128,982 | 0.01% |
| | DBMC | 1,198,977,642 | 77.10% |
| | Total | 1,555,154,433 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 2**
**Computation of Input Percentages for Tray Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.0725 | + | 0.0287 | = | 0.1012 | 141,183,739 | + | 55,771,701 | = | 196,955,440 |
| OSCF | 0.2199 | + | 0.0102 | = | 0.2301 | 427,950,170 | + | 19,910,454 | = | 447,860,624 |
| OBMC | 0.0245 | + | 0.2774 | = | 0.3019 | 47,633,647 | + | 539,915,511 | = | 587,549,158 |
| DBMC | 0.1061 | + | 0.0119 | = | 0.1181 | 206,509,516 | + | 23,256,757 | = | 229,766,275 |
| DSCF | 0.2297 | + | 0.0013 | = | 0.2310 | 447,101,914 | + | 2,506,065 | = | 449,607,980 |
| DAO | 0.0177 | + | 0.0001 | = | 0.0177 | 34,406,180 | + | 103,740 | = | 34,511,920 |
| Totals | 0.6704 | | 0.3296 | | 1.0000 | 1,304,787,168 | | 641,464,228 | | 1,946,251,397 |

| Origin | By Volume | Proportions | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|
| OAO | 196,955,440 | 0.7740 | 0.5040 | 0.0314 | 0.0122 | 2,412,510 DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.9686 | 0.3778 | 74,419,019 DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | | 0.3839 | 75,611,981 OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | | 0.1295 | 25,509,787 OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | | 0.0965 | 19,002,143 DBMC | 5 | Intra-BMC |
| OSCF | 523,472,605 | 0.7611 | 0.4269 | | 0.3249 | 170,083,383 DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | | 0.4362 | 228,331,636 OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | | 0.2314 | 121,130,795 DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | | 0.0075 | 3,926,809 DAO | 9 | Inter-SCF |
| OBMC | 841,390,581 | 1.0000 | | | 1.0000 | 841,390,581 DBMC | 10 | Inter-BMC |
| DBMC | 1,260,242,363 | 0.9686 | | | 0.9686 | 1,220,670,752 DSCF | 11 | Intra-BMC |
| | | 0.0314 | | | 0.0314 | 39,571,610 DAO | 12 | Intra-BMC |
| DSCF | 1,670,278,732 | 1.0000 | | | 1.0000 | 1,670,278,732 DAO | 13 | Intra-SCF |
| | 195,549,816 | 1.0000 | | | | 195,549,816 DAO | 13 | Intra-SCF |
| DAO | 1,946,251,397 | 0.0000 | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 427,950,170 | 81.75% |
| | Service Area | 95,522,435 | 18.25% |
| | Total | 523,472,606 | 100.00% |
| OBMC | Mailer | 47,633,647 | 5.66% |
| | Service Area | 793,756,934 | 94.34% |
| | Total | 841,390,581 | 100.00% |
| DBMC | Mailer | 206,509,516 | 16.38% |
| | Service Area | 212,342,263 | 16.85% |
| | OBMC | 841,390,581 | 66.76% |
| | Total | 1,260,242,363 | 100.00% |
| DSCF | Mailer | 447,101,914 | 23.96% |
| | Service Area | 195,549,816 | 10.48% |
| | Plantload | 2,506,065 | 0.13% |
| | DBMC | 1,220,670,752 | 65.42% |
| | Total | 1,865,828,549 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 3**
**Computation of Input Percentages for Pallet Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.0018 | + | 0.0003 | = | 0.0022 | 10,003,115 | + | 1,883,029 | = | 11,886,144 |
| OSCF | 0.0341 | + | 0.0017 | = | 0.0359 | 185,293,570 | + | 9,315,064 | = | 194,608,635 |
| OBMC | 0.0245 | + | 0.0825 | = | 0.1070 | 133,131,284 | + | 447,504,320 | = | 580,635,604 |
| DBMC | 0.3543 | + | 0.0068 | = | 0.3610 | 1,922,333,429 | + | 36,643,693 | = | 1,958,977,122 |
| DSCF | 0.4752 | + | 0.0086 | = | 0.4838 | 2,578,551,105 | + | 46,734,109 | = | 2,625,285,213 |
| DAO | 0.0101 | + | 0.0000 | = | 0.0101 | 54,705,328 | + | 0 | = | 54,705,328 |
| Totals | 0.9001 | | 0.0999 | | 1.0000 | 4,884,017,831 | | 542,080,215 | | 5,426,098,046 |

| Origin | By Volume | Proportions | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|
| OAO | 11,886,144 | 0.7740 | 0.5040 | 0.0122 | 145,564 | DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.3778 | 4,491,144 | DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | 0.3839 | 4,563,138 | OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | 0.1295 | 1,539,500 | OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | 0.0965 | 1,146,768 | DBMC | 5 | Intra-BMC |
| OSCF | 199,171,773 | 0.7611 | 0.4269 | 0.3249 | 64,713,616 | DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | 0.4362 | 86,876,021 | OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | 0.2314 | 46,068,057 | DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | 0.0075 | 1,494,079 | DAO | 9 | Inter-SCF |
| OBMC | 580,051,125 | 1.0000 | | 1.0000 | 580,051,125 | DBMC | 10 | Inter-BMC |
| DBMC | 2,693,888,631 | 0.9686 | | 0.9686 | 2,609,300,528 | DSCF | 11 | Intra-BMC |
| | | 0.0314 | | 0.0314 | 84,588,103 | DAO | 12 | Intra-BMC |
| DSCF | 5,234,585,742 | 1.0000 | | 1.0000 | 5,234,585,742 | DAO | 13 | Intra-SCF |
| | 50,579,201 | 1.0000 | | | 50,579,201 | DAO | 13 | Intra-SCF |
| DAO | 5,426,098,046 | 0.0000 | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 185,293,570 | 93.03% |
| | Service Area | 13,878,202 | 6.97% |
| | Total | 199,171,773 | 100.00% |
| OBMC | Mailer | 133,131,284 | 19.50% |
| | Service Area | 535,919,841 | 80.10% |
| | Total | 580,051,125 | 100.00% |
| DBMC | Mailer | 1,922,333,429 | 71.36% |
| | Service Area | 102,504,077 | 3.81% |
| | OBMC | 580,051,125 | 24.84% |
| | Total | 2,693,888,631 | 100.00% |
| DSCF | Mailer | 2,578,551,105 | 48.79% |
| | Service Area | 97,313,310 | 1.84% |
| | DBMC | 2,609,300,528 | 49.37% |
| | Total | 5,285,164,943 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 4**
**Input Percentages for Sack/Tray Models**

| Facility | Container | Band | Manual Induct APC/OTR | SSM | Roller Table | Manual Induct Pallet | Direct Runout (bedload) | Direct Runout (container) | Sawtooth |
|---|---|---|---|---|---|---|---|---|---|
| OSCF | | | | | | | | | |
| | Tray | 69.97% | | | | | | | |
| OBMC | | | | | | | | | |
| | Sack | | 10.00% | | | | | | |
| | Tray | | 10.00% | 78.99% | 21.01% | 50.00% | | | |
| DBMC | | | | | | | | | |
| | Sack | | 10.00% | | | | 71.77% | 1.75% | 26.48% |
| | Tray | | 10.00% | 78.99% | 21.01% | 50.00% | 71.77% | 1.75% | 26.48% |
| DSCF | | | | | | | | | |
| | Sack | | | 11.13% | 88.87% | | | 73.52% | 26.48% |
| | Tray | | | 4.93% | 95.07% | | | 73.52% | 26.48% |

| Source | Mail at OBMC | Pct | Vol on OBMC SSM | Mail at DBMC | Pct | Vol on DBMC SSM |
|---|---|---|---|---|---|---|
| Mailer | 40,661,319 | 36.80% | 32,118,264 | 106,142,710 | 39.51% | 83,841,836 |
| AO | 10,703,890 | 9.69% | 0 | 7,973,287 | 2.97% | 0 |
| SCF | 59,131,110 | 53.51% | 55,162,476 | 44,046,538 | 16.39% | 41,090,317 |
| OBMC | | | | *110,496,319* | *41.13%* | *87,280,740* |
| Totals | 110,496,319 | | | 268,658,854 | | 212,212,893 |

| Estimated Total Trays Banded at OSCFs | | | | Total Trays Handled at OSCFs (see Appendix E, Table 2) | Proportion of Trays Banded at OSCFs | | | |
|---|---|---|---|---|---|---|---|---|
| 55,162,476 | + 41,090,317 | = | 96,252,793 | 523,472,605 | 96,252,793 | / | 523,472,605 | = 18.39% |

This table consists of input percentages for different containers and deposit points. It is the exact same table used by witness Acheson in Docket Nos. MC95-1 (USPS LR-MCR-27) and MC96-2 (USPS LR-PRR-7).

**Appendix F**

## Estimation of Nontransportation Costs Avoided by Periodicals Regular Rate Flats Mail Entered at Destination Sectional Center Facilities and Delivery Units

1.0 Productivities Originating in USPS-T-14, Docket No. R84-1

| Productivity (units per manhour) | with variability | Operation | Source |
|---|---|---|---|
| 135.9 | 187.19 | unload sacks from van to in-house countainer (IHC) - (SCF) | Exhibit USPS-T-14KK |
| 20.0 | 27.55 | move all-purpose container (APC), IHC to outbound dock - (SCF) | Exhibit USPS-T-14P |
| 138.3 | 260.94 | load sacks to van from IHC - (BMC) | Exhibit USPS-T-14H |
| 145.0 | 199.72 | unload sacks to conveyor - (SCF) | Exhibit USPS-T-14P |
| 153.0 | 210.74 | load sacks to van from extendible conveyor - (SCF) | Exhibit USPS-T-14P |
| 346.3 | 349.80 | sack sorter - (SCF) | Exhibit USPS-T-14P |
| 12.6 | 23.77 | unload pallets - (BMC) | Exhibit USPS-T-14H |
| 8.6 | 11.85 | move pallets to outbound dock - (SCF) | Exhibit USPS-T-14KK |
| 25.6 | 48.30 | load pallets to van - (BMC) | Exhibit USPS-T-14H |
| 249.3 | 470.38 | unload sacks to extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 311.3 | 587.36 | load sacks to van from extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 28.7 | 54.15 | load containers to van - (BMC) | Exhibit USPS-T-14H |
| 168.7 | 170.40 | load sacks from roller table to IHC - (BMC) | Exhibit USPS-T-14H |
| 391.9 | 395.86 | sack sorter - (BMC) | Exhibit USPS-T-14H |
| 8.1 | 15.28 | crossdock pallets - (BMC) | Exhibit USPS-T-14H |
| 82.3 | 122.84 | primary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 154.6 | 230.75 | secondary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 186.1 | 277.76 | load NMOs to van from IHC - (BMC) | Exhibit USPS-T-14H |

2.0 Container Conversion Factors Originating in USPS-T-14, Docket No. R84-1

| Container Conversion Factor | Description | Source |
|---|---|---|
| 26.5 | sacks per IHC | Exhibit USPS-T-14KK |
| 40.0 | sacks per BMC container | Exhibit USPS-T-14KK |

3.0 Percentage of Sack Flow from BMC Sack Sorters Originating in USPS-T-14, Docket No. R84-1

| Percentage | Flow Description | Source |
|---|---|---|
| 73.79% | sack sorter machine (SSM) to load to van from extendible conveyor | Exhibit USPS-T-14II |
| 16.01% | SSM to roller table to BMC containers and load BMC containers to van | Exhibit USPS-T-14II |
| 10.20% | SSM to roller table to in-house containers and load sacks to van from in-house containers | Exhibit USPS-T-14II |

**Appendix F, Table 1**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at SCFs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percent Machinable | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks from van to in-house containe | 187.1901 | 31.72 | 11.13% | 1.844 | $25.45 | $0.007022 [2] | 1.007 | $0.007071 |
| | | Move APC to outbound dock | 730.0275 [1] | 31.72 | 11.13% | 1.405 | $25.45 | $0.001372 [2] | 1.007 | $0.001382 |
| | | Load sacks to van | 260.9434 | 31.72 | 11.13% | 1.844 | $25.45 | $0.005038 [2] | 1.007 | $0.005073 |
| | Mechanized | Unload sacks to conveyor | 199.7245 | 31.72 | 11.13% | 1.844 | $25.45 | $0.000825 | 1.007 | $0.000830 |
| | | Load sacks to van from extendible conveyor | 210.7438 | 31.72 | 11.13% | 1.844 | $25.45 | $0.000782 | 1.007 | $0.000787 |
| | SSM | Sack sorter | 349.798 | 31.72 | 11.13% | 1.942 | $25.45 | $0.000496 | 1.007 | $0.000499 |
| Pallets | Manual | Unload pallets | 23.77358 | 1658.93 | N/A | 1.844 | $25.45 | $0.001190 | 1.007 | $0.001198 |
| | | Move pallets to outbound dock | 11.84573 | 1658.93 | N/A | 1.405 | $25.45 | $0.001819 | 1.007 | $0.001832 |
| | | Load pallets to van | 48.30189 | 1658.93 | N/A | 1.844 | $25.45 | $0.000586 | 1.007 | $0.000590 |
| | | Weighted Average per Piece: | $0.008949 [3] | | | | | | | |
| | | Weighted Average per Pound: | $0.019229 [4] | | | | | | | |

Additional SCF Handling Costs Avoided by DDU Mail

| | |
|---|---|
| Proportion of Mail flowing DBMC to DDU via DSCF | 96.86% |
| Effective Additional DSCF Cost Avoided--Per Piece | $0.008668 |
| Effective Additional DSCF Cost Avoided--Per Pound | $0.018625 |

1. Includes a container conversion factor of 26.5 sacks per IHC from Appendix F, Section 2.0.
2. Formula is (1-Column (3)) for manual operations.
3. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
4. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix F, Section 1.0.
Column 2: Appendix F, Section 4.0.
Column 3: Appendix F, Section 4.0.
Column 4: Appendix F, Section 4.0.
Column 5: Appendix F, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix F, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix F, Table 2**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at BMCs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percentage of Sack Flow from BMC Sack Sorters | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) BMC Realization Factor | (9) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks to extendible conveyor | 470.3774 | 31.72 | N/A | 2.125 | $25.45 | $0.003624 | 1.007 | 0.9713 | $0.003545 |
| | | Load sacks to van from extendible conveyo | 587.3585 | 31.72 | 73.79% | 2.125 | $25.45 | $0.002142 | 1.007 | 0.9713 | $0.002095 |
| | | Load sacks from roller table to IHC | 170.404 | 31.72 | 16.01% | 1.61 | $25.45 | $0.001213 | 1.007 | 0.9713 | $0.001187 |
| | | Load containers to van | 2166.038 [1] | 31.72 | 16.01% | 2.125 | $25.45 | $0.000126 | 1.007 | 0.9713 | $0.000123 |
| | | Load sacks from roller table to IHC | 170.404 | 31.72 | 10.20% | 1.61 | $25.45 | $0.000773 | 1.007 | 0.9713 | $0.000756 |
| | | Load sacks to van from IHC | 260.9434 | 31.72 | 10.20% | 2.125 | $25.45 | $0.000666 | 1.007 | 0.9713 | $0.000652 |
| | SSM | Sack sorter | 395.8586 | 31.72 | N/A | 2.414 | $25.45 | $0.004892 | 1.007 | 0.9713 | $0.004785 |
| Pallets | Manual | Unload pallets | 23.77358 | 1658.93 | N/A | 2.125 | $25.45 | $0.001371 | 1.007 | 0.9713 | $0.001341 |
| | | Crossdock pallets | 15.28302 | 1658.93 | N/A | 1.405 | $25.45 | $0.001410 | 1.007 | 0.9713 | $0.001379 |
| | | Load pallets to van | 48.30189 | 1658.93 | N/A | 2.125 | $25.45 | $0.000678 | 1.007 | 0.9713 | $0.000660 |
| | | Weighted Average per Piece: | $0.007707 [2] | | | | | | | | |
| | | Weighted Average per Pound: | $0.018561 [3] | | | | | | | | |

1. Includes a container conversion factor of 40 sacks per BMC container from Appendix F, Section 2.0.
2. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
3. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix F, Section 1.0.
Column 2: Appendix F, Section 4.0.
Column 3: Appendix F, Section 3.0.
Column 4: Appendix F, Section 4.0.
Column 5: Appendix F, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix F, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix F, Table 3**
**SCF Rate Periodicals Mail**
**Handling Costs Avoided**

| Facility Type | Cost/Piece | Cost/Pound |
|---|---|---|
| SCF | $0.008949 | $0.019229 |
| BMC | $0.007707 | $0.016561 |
| Total Nontransportation Cost Savings-DSCF Mail | $0.009497 [1] | $0.020406 [1] |
| Total Nontransportation Cost Savings-DDU Mail | $ 0.018166 [2] | $ 0.039032 [2] |

[1] Total Nontransportation Cost Savings equals 80% of BMC costs plus 20% of total costs.

[2] Total Nontransportation Cost Savings for DDU mail is the cost savings for DSCF mail plus the additional savings from Table 1.

Appendix G

## Estimation of Nontransportation Costs Avoided by Periodicals Nonprofit Flats Mail Entered at Destination Sectional Center Facilities and Delivery Units

### 1.0 Productivities Originating in USPS-T-14, Docket No. R84-1

| Productivity (units per manhour) | with variability | Operation | Source |
|---|---|---|---|
| 135.9 | 187.19 | unload sacks from van to in-house countainer (IHC) - (SCF) | Exhibit USPS-T-14KK |
| 20.0 | 27.55 | move all-purpose container (APC), IHC to outbound dock - (SCF) | Exhibit USPS-T-14P |
| 138.3 | 260.94 | load sacks to van from IHC - (BMC) | Exhibit USPS-T-14H |
| 145.0 | 199.72 | unload sacks to conveyor - (SCF) | Exhibit USPS-T-14P |
| 153.0 | 210.74 | load sacks to van from extendible conveyor - (SCF) | Exhibit USPS-T-14P |
| 346.3 | 349.80 | sack sorter - (SCF) | Exhibit USPS-T-14P |
| 12.6 | 23.77 | unload pallets - (BMC) | Exhibit USPS-T-14H |
| 8.6 | 11.85 | move pallets to outbound dock - (SCF) | Exhibit USPS-T-14KK |
| 25.6 | 48.30 | load pallets to van - (BMC) | Exhibit USPS-T-14H |
| 249.3 | 470.38 | unload sacks to extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 311.3 | 587.36 | load sacks to van from extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 28.7 | 54.15 | load containers to van - (BMC) | Exhibit USPS-T-14H |
| 168.7 | 170.40 | load sacks from roller table to IHC - (BMC) | Exhibit USPS-T-14H |
| 391.9 | 395.66 | sack sorter - (BMC) | Exhibit USPS-T-14H |
| 8.1 | 15.28 | crossdock pallets - (BMC) | Exhibit USPS-T-14H |
| 82.3 | 122.84 | primary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 154.6 | 230.75 | secondary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 186.1 | 277.76 | load NMOs to van from IHC - (BMC) | Exhibit USPS-T-14H |

### 2.0 Container Conversion Factors Originating in USPS-T-14, Docket No. R84-1

| Container Conversion Factor | Description | Source |
|---|---|---|
| 26.5 | sacks per IHC | Exhibit USPS-T-14KK |
| 40.0 | sacks per BMC container | Exhibit USPS-T-14KK |

### 3.0 Percentage of Sack Flow from BMC Sack Sorters Originating in USPS-T-14, Docket No. R84-1

| Percentage | Flow Description | Source |
|---|---|---|
| 73.79% | sack sorter machine (SSM) to load to van from extendible conveyor | Exhibit USPS-T-14II |
| 16.01% | SSM to roller table to BMC containers and load BMC containers to van | Exhibit USPS-T-14II |
| 10.20% | SSM to roller table to in-house containers and load sacks to van from in-house containers | Exhibit USPS-T-14II |

**Appendix G, Table 1**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at SCFs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percent Machinable | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks from van to in-house containe | 187.1901 [1] | 63.83 | 11.13% | 1.844 | $25.45 | $0.003490 [2] | 1.011 | $0.003528 |
| | | Move APC to outbound dock | 730.0275 [1] | 63.83 | 11.13% | 1.405 | $25.45 | $0.000882 [2] | 1.011 | $0.000889 |
| | | Load sacks to van | 260.9434 | 63.83 | 11.13% | 1.844 | $25.45 | $0.002503 [2] | 1.011 | $0.002531 |
| | Mechanized | Unload sacks to conveyor | 199.7245 | 63.83 | 11.13% | 1.844 | $25.45 | $0.000410 | 1.011 | $0.000414 |
| | | Load sacks to van from extendible conveyor | 210.7438 | 63.83 | 11.13% | 1.844 | $25.45 | $0.000388 | 1.011 | $0.000393 |
| | SSM | Sack sorter | 349.798 | 63.83 | 11.13% | 1.942 | $25.45 | $0.000246 | 1.011 | $0.000249 |
| Pallets | Manual | Unload pallets | 23.77358 | 3161.89 | N/A | 1.844 | $25.45 | $0.000624 | 1.011 | $0.000631 |
| | | Move pallets to outbound dock | 11.84573 | 3161.89 | N/A | 1.405 | $25.45 | $0.000954 | 1.011 | $0.000965 |
| | | Load pallets to van | 48.30189 | 3161.89 | N/A | 1.844 | $25.45 | $0.000307 | 1.011 | $0.000311 |
| | | Weighted Average per Piece: | | | | | | | | $0.004802 [3] |
| | | Weighted Average per Pound: | | | | | | | | $0.017809 [4] |

Additional SCF Handling Costs Avoided by DDU Mail

| | |
|---|---|
| Proportion of Mail flowing DBMC to DDU via DSCF | 96.86% |
| Effective Additional DSCF Cost Avoided--Per Piece | $0.004651 |
| Effective Additional DSCF Cost Avoided--Per Pound | $0.017250 |

1. Includes a container conversion factor of 26.5 sacks per IHC from Appendix G, Section 2.0.
2. Formula is (1-Column (3)) for manual operations.
3. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
4. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix G, Section 1.0.
Column 2: Appendix G, Section 4.0.
Column 3: Appendix G, Section 4.0.
Column 4: Appendix G, Section 4.0.
Column 5: Appendix G, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix G, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix G, Table 2**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at BMCs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percentage of Sack Flow from BMC Sack Sorters | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) BMC Realization Factor | (9) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks to extendible conveyor | 470.3774 | 63.83 | N/A | 2.125 | $25.45 | $0.001801 | 1.011 | 0.9713 | $0.001768 |
| | | Load sacks to van from extendible conveyo | 587.3585 | 63.83 | 73.79% | 2.125 | $25.45 | $0.001064 | 1.011 | 0.9713 | $0.001045 |
| | | Load sacks from roller table to IHC | 170.404 | 63.83 | 16.01% | 1.61 | $25.45 | $0.000603 | 1.011 | 0.9713 | $0.000592 |
| | | Load containers to van | 2166.038 [1] | 63.83 | 16.01% | 2.125 | $25.45 | $0.000063 | 1.011 | 0.9713 | $0.000061 |
| | | Load sacks from roller table to IHC | 170.404 | 63.83 | 10.20% | 1.61 | $25.45 | $0.000384 | 1.011 | 0.9713 | $0.000377 |
| | | Load sacks to van from IHC | 260.9434 | 63.83 | 10.20% | 2.125 | $25.45 | $0.000331 | 1.011 | 0.9713 | $0.000325 |
| | SSM | Sack sorter | 396.8586 | 63.83 | N/A | 2.414 | $25.45 | $0.002431 | 1.011 | 0.9713 | $0.002387 |
| Pallets | Manual | Unload pallets | 23.77358 | 3161.89 | N/A | 2.125 | $25.45 | $0.000719 | 1.011 | 0.9713 | $0.000706 |
| | | Crossdock pallets | 15.28302 | 3161.89 | N/A | 1.405 | $25.45 | $0.000740 | 1.011 | 0.9713 | $0.000726 |
| | | Load pallets to van | 48.30189 | 3161.89 | N/A | 2.125 | $25.45 | $0.000354 | 1.011 | 0.9713 | $0.000348 |
| | | Weighted Average per Piece: | $0.004126 [2] | | | | | | | | |
| | | Weighted Average per Pound: | $0.015299 [3] | | | | | | | | |

1. Includes a container conversion factor of 40 sacks per BMC container from Appendix G, Section 2.0.
2. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
3. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix G, Section 1.0.
Column 2: Appendix G, Section 4.0.
Column 3: Appendix G, Section 3.0.
Column 4: Appendix G, Section 4.0.
Column 5: Appendix G, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix G, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix G, Table 3**
**SCF Rate Nonprofit Periodicals Mail**
**Handling Costs Avoided**

| Facility Type | Cost/Piece | Cost/Pound |
|---|---|---|
| SCF | $0.004802 | $0.017809 |
| BMC | $0.004125 | $0.015299 |
| Total Nontransportation Cost Savings-DSCF Mail | $0.005085 [1] | $0.018861 [1] |
| Total Nontransportation Cost Savings-DDU Mail | $ 0.009737 [2] | $ 0.036111 [2] |

[1] Total Nontransportation Cost Savings equals 80% of BMC costs plus 20% of total costs.

[2] Total Nontransportation Cost Savings for DDU mail is the cost savings for DSCF mail plus the additional savings from Table 1.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

Michael T. Tidwell

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260-1145
November 20, 1997

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001



POSTAL RATE AND FEE CHANGES, 1997 Docket No. R97-1

**NOTICE OF THE UNITED STATES POSTAL SERVICE CONCERNING ERRATA TO THE SUPPLEMENTAL TESTIMONY OF WITNESS SMITH (USPS-ST-46) (November 20, 1997)**

In conjunction with the response of witness Marc Smith today to Presiding Officer's Information Request No. 6, Question 1, and his November 17, 1997, response to ANM/USPS-ST46-1, the United States Postal Service hereby files these errata to USPS Library Reference H-111, which is incorporated by reference in the supplemental testimony of witness Smith, USPS-ST-46.

There are two substantive revisions to the calculation of dropship cost avoidances in LR-H-111 which are reflected in the errata pages filed today. Each is described below.

**POIR 6, Q 1**

The revision in the calculation of the nontransportation cost avoidances for Periodicals is in response to Question 1 of POIR 6. An examination of USPS LR H-111, Appendices F and G, concerning Periodicals Regular and Nonprofit dropship nontransportation cost avoidances indicates that the application of witness Bradley's variabilities was not performed correctly. The calculations which are shown in LR-H-111, as originally filed, and as indicated in the Information Request, increase the cost savings due to the application of the variabilities, when the opposite should have been the result. Specifically, the application of the variabilities to the productivities (in page

1, Section 1.0 of Appendices F and G) was performed by multiplying the variabilities and productivities. This lowered the productivities and raised cost savings from dropshipping. The application of the variabilities to the productivities (in page 1 of Appendices F and G) should have been to divide the productivities by the variabilities, the effect of which is to raise the productivities and lower the cost savings. As a consequence, the originally filed cost avoidances were, regrettably, significantly overstated because the productivities were greatly understated. Correcting the productivities (in page 1 of Appendices F and G) leads to a large downward revision in the costs associated with dropshipping cost savings as shown in the additional pages of Appendices F and G.

**ANM/USPS-ST46-1**

In responding to part (h) this question, it was determined that the destination entry profile for Nonprofit mail (from Table 18 of LR-H-195) had been erroneously omitted from the top portions of Tables 1, 2, and 3 in Appendix E of H-111. Only the destination entry profile data for Regular from Table 18 of LR-H-105 was incorporated. The correction of Tables 1, 2, and 3 of Appendix E (H-111) leads to revisions in the costs associated with container handling costs, as calculated in Appendix D (H-111). This results from the probability associated with each operation (column one of the pages in Appendix D) changes. The results of the changes in Appendix D are reflected in the revised pages of Appendix C (H-111). The impact of this change on the cost avoidances is very small. Revised pages are attached. All of revised Appendix D (H-111) is reproduced here to reflect not only the above-referenced changes, but also to reflect a complete pagination of the Appendix.

Finally, in conjunction with the response to part (f) of ANM/USPS-ST46-1, Appendix C, Table 8 is revised so that the notes above the table correctly reflect that it is an input for Table 6.

All substantive changes to H-111 are indicated by shading the affected portions of each revised page.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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November 20, 1997

Second, the overview of the methodologies section restates and describes the existing methodologies used to calculate the various cost avoidance estimates. Third, any changes made to the existing methodologies are described. Fourth, the appendices detail all input data and calculations used to develop the cost avoidance estimates.

## 2.0 Results

This section provides a summary of all of the results produced in this analysis. Table 2.1 shows the results for all bulk rate Standard Mail (A); transportation and non-transportation combined. Table 2.2 shows the results for the Periodicals regular rate non-transportation analysis, and Table 2.3 shows the results for the Periodicals nonprofit non-transportation analysis.

### Table 2.1 Standard Mail (A)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination BMC | $0.0904 |
| Destination SCF | $0.1104 |
| Destination Delivery Unit | $0.1378 |

### Table 2.2 Periodicals Regular (Nontransportation)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination SCF | $0.0204 |
| Destination Delivery Unit | $0.0390 |

### Table 2.3 Periodicals Nonprofit (Nontransportation)

| Point of Dropshipment | Costs Avoided |
|---|---|
| Destination SCF | $0.0189 |
| Destination Delivery Unit | $0.0361 |

In order to derive total nontransportation costs, the origin facility for each of the thirteen flow paths in Appendix A is matched with the appropriate cost per pound from Appendix C. Summing the total handling costs for each flow yields the amount of container handling costs that could be avoided if mailers brought Standard Mail (A) directly to delivery units. After total handling costs are calculated, they are divided by total Standard Mail (A) pounds to obtain an average nontransportation cost of 1.57 cents per pound ($Z^T$). This figure, along with costs from Appendix C and the entry point profile percentages from Appendix A, can then be inserted into the nontransportation equation described earlier.

Once estimates for $Y^{origin}$, $Y^{DBMC}$, $X^{DBMC}$, $Y^{DSCF}$, $X^{DSCF}$, and $Z^T$ are obtained, the equation can be solved to determine the cost avoidance for $X^{origin}$. The value for $X^{origin}$ is the cost avoidance that would be achieved if all mail were dropshipped at the DDU. The nontransportation cost avoidances for DSCF and DBMC are calculated in the same way as in the transportation equation ($DSCF=X^{origin} - X^{SCF}$, $DBMC=X^{origin}-X^{BMC}$). The cost avoidances are 2.71 cents for the DDU, 1.98 cents for the DSCF, and 1.35 cents for the DBMC.

### 3.3 Periodicals Nontransportation Methodology

The methodology for developing the Periodicals dropship cost avoidances is exactly the same as that used by witness Byrne in Docket No. MC95-1 (USPS-T-11). Periodicals that are not entered by mailers at destination SCFs, but rather at origin SCFs or at intermediate facilities such as transfer hubs or area distribution centers, must undergo bulk transfer types of mail processing operations at these non-destination facilities. The Postal Service has estimated in past proceedings (Docket Nos. R84-1, MC95-1, MC96-2) that non-destination SCF zone 1 and 2 Periodicals will always incur one transfer through a non-

destination SCF or ADC/SDC before it is dispatched to its destination SCF. The same estimate is used in this docket.

The types of bulk transfer handlings incurred at non-destination facilities include the unloading of Periodicals containers (pallets, sacks, and "outside bundles") from trucks at inbound docks, movement of these types of containers through the facilities to outbound docks, and finally loading of the containers to trucks at the outbound docks.

The cost avoidance estimates for destination SCF Periodicals in Docket No. MC95-1 incorporated a number of parameters into the cost calculations. These parameters included productivities for BMC and SCF cross-docking operations, container conversion factors, and proportions of volumes in each of three container types. This analysis uses the same productivities, but the container conversion factors, container volume proportions, and other input parameters have been updated.

Appendices F and G of this analysis show the input values and equations used to calculate the cross-docking costs avoided by SCF rate and delivery unit rate Periodicals for both regular rate and nonprofit. Given the estimated proportions of Periodicals in each type of container, the weighted average cost incurred for the SCF cross-docking is estimated to be 1.92 cents per pound for regular rate mail and 1.78 cents per pound for nonprofit mail, while the weighted average cost for the BMC crossdocking is 1.66 cents per pound for regular rate mail and 1.53 cents per pound for nonprofit mail.

Given the estimate that all zone 1 and 2 Periodicals undergoes one transfer hub cross-docking and that 20 percent incurs both a transfer hub and an SCF cross-docking, the estimated total cross-docking cost incurred by zone 1 and 2 regular rate mail (and avoided by SCF rate mail) is 2.04 cents per pound. The estimated

total cross-docking cost incurred by zone 1 and 2 nonprofit mail is 1.89 cents per pound.

The additional cost savings of delivery unit rate mail avoiding a destination SCF handling is also calculated. As already shown, the average cost of one SCF cross-docking is 1.92 cents per pound for regular rate mail and 1.78 cents per pound for nonprofit mail. These costs are adjusted to account for the fact that an estimated 3.14 percent of the mail is dispatched directly from destination BMCs to destination delivery units, thus bypassing destination SCFs.

Therefore, the effective cost of the destination SCF handling avoided by delivery unit rate mail is estimated to be 1.86 cents per pound for regular rate mail and 1.73 cents per pound for nonprofit. The total cost avoidance for delivery unit rate mail is then 3.90 cents per pound for regular rate mail and 3.61 cents per pound for nonprofit mail.

Some of the inputs used in this analysis remain unchanged from witness Byrne's testimony. These include:

1. Productivities (Docket No. R84-1, USPS-T-14).
2. Container Conversion Factors (Docket No. R84-1, Exhibit USPS-T-14-KK).
3. Sack flow percentages (Docket No. R84-1, Exhibit USPS-T-14-II).
4. The proportion of SCFs that are mechanized (Docket No. MC95-1, Exhibit USPS-T-11U, page 2).
5. BMC realization factor (Docket No. R94-1, Tr. 8/4006).
6. The proportion of volume from DBMCs that flows to DDUs via DSCFs (Docket No. R90-1, Exhibit USPS-12B, page 5).

Other inputs have been updated using new inputs developed for Docket No. R97-1. These are:

Appendix C, Table 1

## Standard Mail (A) Aggregate Nontransportation Equation and Results

**Nontransportation Equation:** $(Y^{origin} * X^{origin}) + (Y^{DBMC} * X^{DBMC}) + (Y^{DSCF} * X^{DSCF}) = Z^T$ 1/

$Y^{origin}$: Percentage of mail that is dropshipped or plantloaded to non-destination facilities.
$X^{origin}$: Unit cost to the Postal Service of crossdocking $Y^{origin}$ before it reaches the destination delivery unit.

$Y^{DBMC}$: Percentage of mail that is dropshipped or plantloaded to a destination BMC.
$X^{DBMC}$: Unit cost to the Postal Service of crossdocking $Y^{DBMC}$ before it reaches the destination delivery unit.

$Y^{DSCF}$: Percentage of mail that is dropshipped or plantloaded to a destination SCF.
$X^{DSCF}$: Unit cost to the Postal Service of crossdocking $Y^{DSCF}$ before it reaches the destination delivery unit.

$Z^T$: Unit cost to the Postal Service of crossdocking all Standard Mail (A) before it reaches the destination delivery unit.

**Solving the Equation:**

| | | |
|---|---|---|
| $Y^{origin}$: | 33.55% | 2/ |
| $X^{origin}$: | Solve for this variable. | 3/ |
| $Y^{DBMC}$: | 29.20% | 4/ |
| $X^{DBMC}$: | $0.0136 | 5/ |
| $Y^{DSCF}$: | 36.13% | 6/ |
| $X^{DSCF}$: | $0.0073 | 7/ |
| $Z^T$: | $0.0157 | 8/ |

$X^{origin}$: **$0.0271** 9/

**Cost Avoidances:**

| Point of Dropshipment | Cost Avoidances | |
|---|---|---|
| DDU | $0.0271 | 10/ |
| DSCF | $0.0198 | 11/ |
| DBMC | $0.0135 | 12/ |

1/ For a more detailed explanation of the nontransportation equation, see Docket No. MC95-1, USPS-T-9, page 3. (Originally in Docket No. R90-1, USPS-T-12, p.5.)
2/ This figure is equal to the percentage of mail that is dropshipped to non-destination facilities, plus the percentage of mail that is plantloaded to non-destination facilities. See Table 1.
3/ This variable is unknown. The equation will be solved to find $X^{origin}$.
4/ This figure is equal to the percentage of mail that is dropshipped or plantloaded at DBMCs. See Table 1.
5/ This figure is equal to Cost per Pound of crossdocking the above mail before it reaches the DDU. See Docket No. MC95-1, USPS-T-9, p.12. (Originally in Docket No. R90-1, Exhibit USPS-12B, p.3.)
6/ This figure is equal to the percentage of mail that is dropshipped or plantloaded at DSCFs. See Table 1.
7/ This figure is the crossdocknq Cost per Pound of DSCF mail before it reaches the DDU. See Table 7.
8/ $Z^T$ is the unit cost to the Postal Service of handling all Standard Mail (A) at the DDU. See Table 4.
9/ In solving the equation, $X^{origin}$ is equal to this figure.
10/ Equals 9/.
11/ 9/ minus 7/ gives the cost avoidance for dropshipping to a DSCF.
12/ 9/ minus 5/ gives the cost avoidance for dropshipping to a DBMC.

**Appendix C, Table 2**
**Test Year Cost per Pound to Handle Containerized Mail at Various Facilities**

| Facility Type | Cost per Pound (cents)[1] |
|---|---|
| Origin AO, Station, or Branch | 0.09 |
| Origin SCF | 1.06 |
| Origin BMC | 1.43 |
| Destinating BMC | 0.66 |
| Destinating SCF | 0.73 |

1. Appendix C, Table 7.

**Appendix C, Table 3**
**Calculation of Total Handling Costs on all Flow Paths**

| Flow Number | Number of Pounds on Flowpath (000s)[1] | Facility Where Mail is Crossdocked | Cost of Crossdocking[2] | Total Handling Costs (000s)[3] |
|---|---|---|---|---|
| 1 | 5,670 | OAO | $0.0009 | $5 |
| 2 | 174,902 | OAO | $0.0009 | $149 |
| 3 | 177,706 | OAO | $0.0009 | $151 |
| 4 | 59,954 | OAO | $0.0009 | $51 |
| 5 | 44,660 | OAO | $0.0009 | $38 |
| 6 | 432,052 | OSCF | $0.0106 | $4,569 |
| 7 | 580,016 | OSCF | $0.0106 | $6,134 |
| 8 | 307,701 | OSCF | $0.0106 | $3,254 |
| 9 | 9,975 | OSCF | $0.0106 | $105 |
| 10 | 2,397,161 | OBMC | $0.0143 | $34,224 |
| 11 | 5,626,328 | DBMC | $0.0066 | $36,863 |
| 12 | 182,394 | DBMC | $0.0066 | $1,195 |
| 13 | 9,740,335 | DSCF | $0.0073 | $70,698 |
| TOTAL | | | | $157,437 |

1. Appendix A, Table 4.
2. Appendix C, Table 2 divided by 100.
3. Number of pounds per flowpath multiplied by the cost of crossdocking.

**Appendix C, Table 4**

**Calculation of Bulk Standard Mail (A) Nontransportation Unit Costs**

| | | |
|---|---|---|
| Total TY Bulk Rate Pieces | 80,038,470,000 [1] | |
| Total BY Bulk Rate Pieces | 71,540,327,918 [2] | |
| Total BY Bulk Rate Pounds | 8,983,087,856 [3] | |
| BY Pieces per Pound | 7.963890 [4] | |
| Total TY Pounds | | 10,050,172,103 [5] |

Average Non-Transportation Cost Per Pound

| | |
|---|---|
| TY Handling Costs | $157,437,162 [6] |
| Total TY Pounds | 10,050,172,103 [5] |
| Average TY Cost Per Pound | 0.0157 [7] |

1. Test Year Bulk Rate Pieces from Exhibit USPS-6A.
2. Base Year Bulk Rate Pieces from 1996 RPW.
3. Base Year Bulk Rate Pounds from 1996 RPW.
4. Base Year Pieces (2) divided by Base Year Pounds (3).
5. Test Year Bulk Rate Pieces (1) divided by Base Year Pieces per Pound (4).
6. Appendix C, Table 3.
7. Test Year Handling Costs (6) divided by Total Test Year Pounds (5).

## *Appendix C, Tables 5-7*
## Calculation of Nontransportation Costs
## By Container Type and By Facility

For the purposes of this study, there are fifteen possible facility/container combinations for which costs need to be estimated. Appendix D of this document contains 15 mail flow models, one for each of the facility/container scenarios. The models show the operations needed to process a container from the point that it is unloaded at the incoming dock to the point that it is loaded onto an outgoing vehicle. A total time to process a particular container through a specific facility is arrived at by weight-averaging the time needed to perform each required operation on the basis of such factors as the source of the mail at the facility's unloading dock, the likelihood that a container will be sorted on a sack sorting machine, and the proportion of volume that will receive a direct runout onto a vehicle as opposed to a sort in a sawtooth operation prior to being loaded.
Because engineering standards were used to estimate the time needed for each operation, the following factors were multiplied by\ the weight-averaged time (and thus cost) per container/facility to align the result with postal costs as determined by the CRA: a P, F, & D factor of 1.15%, a mail processing overhead factor, an appropriate piggyback factor, a BMC realization factor (.9713) for application to BMC costs only, and an FY 1998 clerk/mailhandler average hourly wage rate that is multiplied by a premium pay factor and divided by 60 (the minutes in an hour).
Finally, the resulting cost per container is divided by the average weight of that container to obtain an overall cost per pound for each container/facility combination. The following costs per pound were generated from Appendix D of this document:

**TABLE 5**

| | SACK | TRAY | PALLET |
|---|---|---|---|
| Originating AO | $0.000301 | $0.001341 | $0.002213 |
| Originating SCF | $0.004077 | $0.016303 | $0.005726 |
| *Originating BMC* | *$0.015536* | *$0.022877* | *$0.004701* |
| Destinating BMC | $0.014555 | $0.018507 | $0.003374 |
| Destinating SCF | $0.016796 | $0.020725 | $0.004331 |

The above costs must be weight-averaged in order to obtain an overall cost per facility. Table 6 below provides the requisite proportions for weighting the container costs for each facility type. The pound volumes shown in Table 6 were derived from Table 8 of this appendix from data from USPS LR-H-105 and USPS LR-H-195.

**TABLE 6**

| | SACK | TRAY | PALLET | TOTAL |
|---|---|---|---|---|
| Originating AO | 204,902,467<br>49.52% | 196,955,440<br>47.60% | 11,886,144<br>2.87% | 413,744,050 |
| Originating SCF | 387,250,006<br>37.61% | 447,860,624<br>43.49% | 194,608,635<br>18.90% | 1,029,719,264 |
| Originating BMC | 402,435,365<br>25.62% | 587,549,158<br>37.41% | 580,635,604<br>36.97% | 1,570,620,128 |
| Destinating BMC | 434,496,389<br>16.56% | 229,766,275<br>8.76% | 1,958,977,122<br>74.68% | 2,623,239,787 |
| Destinating SCF | 170,943,451<br>5.27% | 449,607,980<br>13.85% | 2,625,285,213<br>80.88% | 3,245,836,644 |

The results of weight-averaging, by facility, the costs per container shown in Table 5 by the appropriate proportions in Table 6 are shown below in column (a).

**TABLE 7**

| | (a) | | (b) |
|---|---|---|---|
| Originating AO | 0.000851 | or | 0.09 cents |
| Originating SCF | 0.010576 | or | 1.06 cents |
| Originating BMC | 0.014277 | or | 1.43 cents |
| Destinating BMC | 0.006552 | or | 0.66 cents |
| Destinating SCF | 0.007258 | or | 0.73 cents |

**Appendix C, Table 8**

**Breakout of Base Year Standard Mail (A) Pounds**
**By Container Type and By Facility**

The pieces and pounds totals were taken from an entry point profile provided by Christensen Associates (USPS LR-H-105 and USPS LR-H-195). The "pound" profiles generated are used in Table 6 of this appendix to weight the facility/container costs shown in Table 5 on that same page.

| | PIECES | | | POUNDS | | |
|---|---|---|---|---|---|---|
| | SACK | TRAY | PALLET | SACK | TRAY | PALLET |
| ORIGINATING DU | 681,202,424 | 3,160,812,383 | 228,027,328 | 204,902,467 | 196,955,440 | 11,886,144 |
| ORIGINATNG SCF | 1,849,919,491 | 7,745,831,421 | 1,598,326,604 | 387,250,006 | 447,860,624 | 194,608,635 |
| ORIGINATING BMC | 2,521,586,850 | 7,627,876,102 | 5,280,918,383 | 402,435,365 | 587,549,158 | 580,635,604 |
| DESTINATING BMC | 2,400,645,147 | 2,148,674,772 | 12,788,791,861 | 434,496,389 | 229,786,275 | 1,958,977,122 |
| DESTINATING SCF | 1,065,188,921 | 4,821,473,679 | 16,307,020,379 | 170,843,451 | 449,607,980 | 2,625,285,213 |
| DESTINATING DU | 76,196,414 | 767,258,349 | 470,577,411 | 10,710,735 | 34,511,920 | 54,705,328 |
| TOTALS | 8,594,739,246 | 26,271,926,705 | 36,673,661,966 | 1,610,738,413 | 1,946,251,397 | 5,426,098,046 |

## Appendix D
## MTM Productivity Mail Flow Models for Facility/Container Scenarios

**Orig AO Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer load sacks on APC | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Transport APC to van and load | 100.00% | 0.0123 | 0.0123 | 1.15 | 1.201 | 1.844 | 0.0313 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.0123 |
| Total Minutes per Sack: | 0.0313 |
| Cost per Pound: | 0.000301 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer load sacks, move APC to staging | 76.90% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Move APC to dock (stage) | 76.90% | 0.0571 | 0.0439 | 1.15 | 1.539 | 1.405 | 0.1093 |
| | Load APC on van | 76.90% | 0.0140 | 0.0108 | 1.15 | 1.539 | 1.844 | 0.0352 |
| Service Area: | MHs unload APC to staging | 23.10% | 0.0129 | 0.0030 | 1.15 | 1.539 | 1.844 | 0.0097 |
| | Move APC to sort area | 23.10% | 0.0286 | 0.0066 | 1.15 | 1.539 | 1.405 | 0.0164 |
| | Sort sacks into rolling containers | 23.10% | 0.1469 | 0.0339 | 1.15 | 1.559 | 1.610 | 0.0979 |
| | Move APC to dock (stage) | 23.10% | 0.0286 | 0.0066 | 1.15 | 1.539 | 1.405 | 0.0164 |
| | Load APC on van | 23.10% | 0.0140 | 0.0032 | 1.15 | 1.539 | 1.844 | 0.0106 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.1081 |
| Total Minutes per Sack: | 0.2955 |
| Cost per Pound: | 0.004077 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer-Orig: | Mailer unload to conveyor (No USPS assistance) | 7.34% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| Plantload: | USPS unload to conveyor | 56.32% | 0.0847 | 0.0477 | 1.15 | 1.466 | 2.125 | 0.1710 |
| Service Area: | USPS unload APC to staging | 36.34% | 0.0102 | 0.0037 | 1.15 | 1.466 | 2.125 | 0.0133 |
| | Move APC to SSM induction | 36.34% | 0.0209 | 0.0076 | 1.15 | 1.466 | 1.405 | 0.0180 |
| | Manually dump sack to SSM | 3.63% | 0.1799 | 0.0065 | 1.15 | 1.408 | 2.414 | 0.0256 |
| | Key sack at SSM | 100.00% | 0.0779 | 0.0779 | 1.15 | 1.408 | 2.414 | 0.3045 |
| | Direct runout to van | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload sacks from conveyor | 100.00% | 0.0981 | 0.0981 | 1.15 | 1.466 | 2.125 | 0.3515 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.2416 |
| Total Minutes per Sack: | 0.8838 |
| Cost per Pound: | 0.015536 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer-Dest: | Mailer unload to conveyor (50% USPS assistance) | 33.44% | 0.0424 | 0.0142 | 1.15 | 1.466 | 2.125 | 0.0508 |
| OBMC and Plantload: | USPS unload to conveyor | 52.74% | 0.0847 | 0.0447 | 1.15 | 1.466 | 2.125 | 0.1601 |
| Service Area: | USPS unload APC to staging | 13.83% | 0.0102 | 0.0014 | 1.15 | 1.466 | 2.125 | 0.0051 |
| | Move APC to SSM induction | 13.63% | 0.0209 | 0.0029 | 1.15 | 1.466 | 1.405 | 0.0068 |
| | Manually dump sack to SSM | 1.38% | 0.1799 | 0.0025 | 1.15 | 1.408 | 2.414 | 0.0097 |
| | Key sack at SSM | 100.00% | 0.0779 | 0.0779 | 1.15 | 1.408 | 2.414 | 0.3045 |
| | Direct runout to van | 71.77% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload sacks from conveyor | 71.77% | 0.0981 | 0.0704 | 1.15 | 1.466 | 2.125 | 0.2522 |
| | Direct runout to container | 1.75% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 26.48% | 0.1641 | 0.0435 | 1.15 | 1.559 | 1.610 | 0.1254 |
| | Move APC to dock staging | 28.23% | 0.0209 | 0.0059 | 1.15 | 1.466 | 1.405 | 0.0140 |
| | Load APC on van | 28.23% | 0.0102 | 0.0029 | 1.15 | 1.466 | 2.125 | 0.0103 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.2662 |
| Total Minutes per Sack: | 0.9390 |
| Cost per Pound: | 0.014555 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Sacks**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Sack | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer unload APC to staging | 10.98% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| Service Area: | USPS unload APC to staging | 11.91% | 0.0129 | 0.0015 | 1.15 | 1.539 | 1.844 | 0.0050 |
| BMC (APC): | USPS unload APC to staging | 20.42% | 0.0140 | 0.0029 | 1.15 | 1.539 | 1.844 | 0.0093 |
| BMC (bedload) and PL: | Move APC on/off van | 50.38% | 0.0140 | 0.0071 | 1.15 | 1.539 | 1.844 | 0.0230 |
| | Load sacks on APC | 50.38% | 0.0855 | 0.0431 | 1.15 | 1.539 | 1.844 | 0.1406 |
| | USPS unload to conveyor | 6.31% | 0.1161 | 0.0073 | 1.15 | 1.539 | 1.844 | 0.0239 |
| | Move APC to SSM induction | 4.82% | 0.0286 | 0.0014 | 1.15 | 1.539 | 1.405 | 0.0034 |
| | Manually induct sack into SSM | 4.82% | 0.1799 | 0.0087 | 1.15 | 1.408 | 1.942 | 0.0273 |
| | Key sack at SSM | 11.13% | 0.0908 | 0.0101 | 1.15 | 1.408 | 1.942 | 0.0318 |
| | Direct runout to container | 8.18% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.942 | 0.0000 |
| | Move APC to dock, staging | 8.18% | 0.0390 | 0.0032 | 1.15 | 1.539 | 1.405 | 0.0079 |
| | Load AOC on van | 8.18% | 0.0129 | 0.0011 | 1.15 | 1.539 | 1.844 | 0.0034 |
| | Sort at sawtooth to APCs | 2.95% | 0.1641 | 0.0048 | 1.15 | 1.559 | 1.610 | 0.0140 |
| | Move APC to dock staging | 2.95% | 0.0286 | 0.0008 | 1.15 | 1.539 | 1.405 | 0.0021 |
| | Load APC on van | 2.95% | 0.0129 | 0.0004 | 1.15 | 1.539 | 1.844 | 0.0012 |
| | Move APC to sort area, stage | 88.87% | 0.0286 | 0.0254 | 1.15 | 1.539 | 1.405 | 0.0632 |
| | Unload APC, osrt sacks | 88.87% | 0.1469 | 0.1305 | 1.15 | 1.559 | 1.610 | 0.3767 |
| | Unload APC, sort sacks | 23.53% | 0.1469 | 0.0346 | 1.15 | 1.559 | 1.610 | 0.0998 |
| | Move APC to dock, staging | 88.87% | 0.0286 | 0.0254 | 1.15 | 1.539 | 1.405 | 0.0632 |
| | Load APC on van | 88.87% | 0.0129 | 0.0114 | 1.15 | 1.539 | 1.844 | 0.0373 |

| | |
|---|---|
| MTM Minutes per Sack: | 0.3197 |
| Total Minutes per Sack: | 0.9332 |
| Cost per Pound: | 0.016796 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig AO Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer load sacks on APC | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Transport APC to van and Load | 100.00% | 0.0152 | 0.0152 | 1.15 | 1.201 | 1.844 | 0.0387 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.0152 |
| Total Minutes per Tray: | 0.0387 |
| Cost per Pound: | 0.001341 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer unload trays to APC to staging | 81.75% | 0.0000 | 0.0000 | 1.15 | 1.000 | 0.000 | 0.0000 |
| | Move APC to dock (stage) | 24.55% | 0.0709 | 0.0174 | 1.15 | 1.539 | 1.405 | 0.0433 |
| | Move APC to sort/band area | 53.51% | 0.0354 | 0.0190 | 1.15 | 1.539 | 1.405 | 0.0471 |
| | Band the trays | 53.51% | 0.1204 | 0.0644 | 1.15 | 1.374 | 1.405 | 0.1430 |
| | Move APC to dock (stage) | 53.51% | 0.0354 | 0.0190 | 1.15 | 1.539 | 1.405 | 0.0471 |
| | Load APC on van | 81.75% | 0.0174 | 0.0142 | 1.15 | 1.539 | 1.844 | 0.0463 |
| Service Area: | MHs unload APC to staging | 18.25% | 0.0159 | 0.0029 | 1.15 | 1.539 | 1.844 | 0.0095 |
| | Move APC to sort area | 18.25% | 0.0354 | 0.0065 | 1.15 | 1.539 | 1.405 | 0.0161 |
| | Sort trays into rolling containers | 18.25% | 0.1469 | 0.0268 | 1.15 | 1.559 | 1.610 | 0.0774 |
| | Band the trays | 12.77% | 0.1204 | 0.0154 | 1.15 | 1.374 | 1.405 | 0.0341 |
| | Move APC to dock (stage) | 18.25% | 0.0354 | 0.0065 | 1.15 | 1.539 | 1.405 | 0.0161 |
| | Load APC on van | 18.25% | 0.0174 | 0.0032 | 1.15 | 1.539 | 1.844 | 0.0103 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.1951 |
| Total Minutes per Tray: | 0.4903 |
| Cost per Pound: | 0.018303 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer & Plantload: | USPS unload pallet | 5.66% | 0.0136 | 0.0008 | 1.15 | 1.466 | 2.125 | 0.0028 |
| | Move pallet to SSM induction | 4.47% | 0.0119 | 0.0005 | 1.15 | 1.466 | 1.405 | 0.0013 |
| | Manually dump tray to SSM | 2.24% | 0.1635 | 0.0037 | 1.15 | 1.408 | 2.414 | 0.0143 |
| | Key tray at SSM | 4.47% | 0.0779 | 0.0035 | 1.15 | 1.408 | 2.414 | 0.0136 |
| | Direct runout to van | 4.47% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 4.47% | 0.0766 | 0.0034 | 1.15 | 1.466 | 2.125 | 0.0123 |
| | Move pallet to NMO roller, stage | 1.19% | 0.0119 | 0.0001 | 1.15 | 1.466 | 1.405 | 0.0003 |
| | Unload pallet, sort trays | 1.19% | 0.1469 | 0.0017 | 1.15 | 1.559 | 1.610 | 0.0050 |
| | Move APC to dock | 1.19% | 0.0259 | 0.0003 | 1.15 | 1.466 | 1.405 | 0.0007 |
| | Load APC on van | 1.19% | 0.0127 | 0.0002 | 1.15 | 1.466 | 2.125 | 0.0005 |
| | Bedload trays on van | 1.19% | 0.1398 | 0.0017 | 1.15 | 1.408 | 2.125 | 0.0057 |
| Service Area: | USPS unload APC to staging | 94.34% | 0.0127 | 0.0119 | 1.15 | 1.466 | 2.125 | 0.0428 |
| | Move APCt to SSM induction | 74.52% | 0.0259 | 0.0193 | 1.15 | 1.466 | 1.405 | 0.0457 |
| | Manually dump tray to SSM | 7.45% | 0.1398 | 0.0104 | 1.15 | 1.408 | 2.414 | 0.0407 |
| | Key tray at SSM | 74.52% | 0.0779 | 0.0581 | 1.15 | 1.408 | 2.414 | 0.2269 |
| | Direct runout to van | 74.52% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 74.52% | 0.0766 | 0.0571 | 1.15 | 1.466 | 2.125 | 0.2046 |
| | Move pallet to NMO roller, stage | 19.82% | 0.0483 | 0.0096 | 1.15 | 1.466 | 1.405 | 0.0227 |
| | Unload APC, sort trays | 19.82% | 0.1469 | 0.0291 | 1.15 | 1.559 | 1.610 | 0.0840 |
| | Move APC to dock, staging | 19.82% | 0.0259 | 0.0051 | 1.15 | 1.466 | 1.405 | 0.0121 |
| | Load APC on van | 19.82% | 0.0127 | 0.0025 | 1.15 | 1.466 | 2.125 | 0.0090 |
| | Bedload trays on van | 19.82% | 0.1398 | 0.0277 | 1.15 | 1.408 | 2.125 | 0.0953 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.2467 |
| Total Minutes per Tray: | 0.8405 |
| Cost per Pound: | 0.022877 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| OBMC: | Unload trays to conveyor | 52.74% | 0.0561 | 0.0296 | 1.15 | 1.466 | 2.125 | 0.1069 |
| | Conveyor to SSM | 52.74% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Key trays at SSM | 52.74% | 0.0779 | 0.0411 | 1.15 | 1.408 | 2.414 | 0.1606 |
| | Direct runout to van | 37.85% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 37.85% | 0.0766 | 0.0290 | 1.15 | 1.466 | 2.125 | 0.1039 |
| | Direct runout to container | 0.92% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 13.96% | 0.1557 | 0.0217 | 1.15 | 1.559 | 1.610 | 0.0626 |
| | Move APC to dock staging | 14.59% | 0.0259 | 0.0038 | 1.15 | 1.466 | 1.405 | 0.0091 |
| | Load APC on van | 14.59% | 0.0127 | 0.0019 | 1.15 | 1.466 | 2.125 | 0.0068 |
| | Load trays on APC | 14.03% | 0.0543 | 0.0076 | 1.15 | 1.466 | 2.125 | 0.0273 |
| | Stack trays on van | 14.03% | 0.1398 | 0.0196 | 1.15 | 1.408 | 2.125 | 0.0675 |
| | Unload APC to staging | 14.03% | 0.0127 | 0.0018 | 1.15 | 1.466 | 2.125 | 0.0064 |
| | Move APC to NMO roller, stage | 14.03% | 0.0259 | 0.0036 | 1.15 | 1.466 | 1.405 | 0.0086 |
| | Unload APC, sort trays | 14.03% | 0.1469 | 0.0206 | 1.15 | 1.559 | 1.610 | 0.0595 |
| | Unload APC, sort trays | 3.71% | 0.1469 | 0.0055 | 1.15 | 1.559 | 1.610 | 0.0157 |
| | Move APC to dock, staging | 14.03% | 0.0259 | 0.0036 | 1.15 | 1.466 | 1.405 | 0.0086 |
| | Load AOC on van | 14.03% | 0.0127 | 0.0018 | 1.15 | 1.466 | 2.125 | 0.0064 |
| Mailer & Plantload: | USPS unload pallet | 16.38% | 0.0136 | 0.0022 | 1.15 | 1.466 | 2.125 | 0.0080 |
| | Move pallet to SSM induction | 12.94% | 0.0119 | 0.0015 | 1.15 | 1.466 | 1.405 | 0.0036 |
| | Manually dump tray to SSM | 6.47% | 0.1635 | 0.0106 | 1.15 | 1.408 | 2.414 | 0.0414 |
| | Key tray at SSM | 12.94% | 0.0779 | 0.0101 | 1.15 | 1.408 | 2.414 | 0.0394 |
| | Direct runout to van | 9.29% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 9.29% | 0.0766 | 0.0071 | 1.15 | 1.466 | 2.125 | 0.0255 |
| | Direct runout to container | 0.23% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 3.43% | 0.1557 | 0.0053 | 1.15 | 1.559 | 1.610 | 0.0154 |
| | Move APC to dock staging | 3.65% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Load APC on van | 3.65% | 0.0127 | 0.0005 | 1.15 | 1.466 | 2.125 | 0.0017 |
| | Move pallet to NMO roller, stage | 3.44% | 0.0119 | 0.0004 | 1.15 | 1.466 | 1.405 | 0.0010 |
| | Unload pallet, sort trays | 3.44% | 0.1469 | 0.0051 | 1.15 | 1.559 | 1.610 | 0.0146 |
| | Unload pallet, sort trays | 0.91% | 0.1469 | 0.0013 | 1.15 | 1.559 | 1.610 | 0.0039 |
| | Move APC to dock | 3.44% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0021 |
| | Load APC on van | 3.44% | 0.0127 | 0.0004 | 1.15 | 1.466 | 2.125 | 0.0016 |
| Service Area: | USPS unload APC to staging | 16.85% | 0.0127 | 0.0021 | 1.15 | 1.466 | 2.125 | 0.0076 |
| | Move APCt to SSM induction | 13.31% | 0.0259 | 0.0034 | 1.15 | 1.466 | 1.405 | 0.0082 |
| | Manually dump tray to SSM | 1.33% | 0.1398 | 0.0019 | 1.15 | 1.408 | 2.414 | 0.0073 |
| | Key tray at SSM | 13.31% | 0.0779 | 0.0104 | 1.15 | 1.408 | 2.414 | 0.0405 |
| | Direct runout to van | 9.55% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Bedload trays from conveyor | 9.55% | 0.0766 | 0.0073 | 1.15 | 1.466 | 2.125 | 0.0262 |
| | Direct runout to container | 0.23% | 0.0000 | 0.0000 | 1.15 | 1.000 | 2.414 | 0.0000 |
| | Sort at sawtooth to APCs | 3.52% | 0.1557 | 0.0055 | 1.15 | 1.559 | 1.610 | 0.0158 |
| | Move APC to dock staging | 3.76% | 0.0259 | 0.0010 | 1.15 | 1.466 | 1.405 | 0.0023 |
| | Load APC on van | 3.76% | 0.0127 | 0.0005 | 1.15 | 1.466 | 2.125 | 0.0017 |
| | Move APC to NMO roller, stage | 3.54% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Unload APC, sort trays | 3.54% | 0.1469 | 0.0052 | 1.15 | 1.559 | 1.610 | 0.0150 |
| | Unload APC, sort trays | 0.94% | 0.1469 | 0.0014 | 1.15 | 1.559 | 1.610 | 0.0040 |
| | Move APC to dock, staging | 3.54% | 0.0259 | 0.0009 | 1.15 | 1.466 | 1.405 | 0.0022 |
| | Load APC on van | 3.54% | 0.0127 | 0.0004 | 1.15 | 1.466 | 2.125 | 0.0016 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.2786 |
| Total Minutes per Tray: | 0.9439 |
| Cost per Pound: | 0.018507 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Trays**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Tray | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer: | Mailer unload APC to staging | 23.96% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.844 | 0.0000 |
| Service Area: | USPS unload APC to staging | 10.48% | 0.0159 | 0.0017 | 1.15 | 1.539 | 1.844 | 0.0054 |
| BMC(APC): | USPS unload APC to staging | 25.28% | 0.0174 | 0.0044 | 1.15 | 1.539 | 1.844 | 0.0143 |
| BMC (bedload & PL): | Move APC on/off van to staging | 33.35% | 0.0174 | 0.0058 | 1.15 | 1.539 | 1.844 | 0.0189 |
| | Load trays on APC | 33.35% | 0.0743 | 0.0248 | 1.15 | 1.539 | 1.844 | 0.0809 |
| | USPS unload to conveyor | 1.73% | 0.0768 | 0.0013 | 1.15 | 1.539 | 1.844 | 0.0043 |
| | Move APC to SSM induction | 3.20% | 0.0354 | 0.0011 | 1.15 | 1.539 | 1.405 | 0.0028 |
| | Manually dump sack to SSM | 3.20% | 0.1398 | 0.0045 | 1.15 | 1.408 | 1.942 | 0.0141 |
| | Key tray at SSM | 4.93% | 0.0908 | 0.0045 | 1.15 | 1.408 | 1.942 | 0.0141 |
| | Direct runout to container | 3.62% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.942 | 0.0000 |
| | Move APC to dock staging | 3.62% | 0.0483 | 0.0018 | 1.15 | 1.539 | 1.405 | 0.0044 |
| | Load APC on van | 3.62% | 0.0159 | 0.0006 | 1.15 | 1.539 | 1.844 | 0.0019 |
| | Sort at sawtooth to APCs | 1.31% | 0.1557 | 0.0020 | 1.15 | 1.559 | 1.610 | 0.0059 |
| | Move APC to dock staging | 1.31% | 0.0354 | 0.0005 | 1.15 | 1.539 | 1.405 | 0.0012 |
| | Load APC on van | 1.31% | 0.0159 | 0.0002 | 1.15 | 1.539 | 1.844 | 0.0007 |
| | Move pallet to NMO roller, stage | 95.07% | 0.0354 | 0.0337 | 1.15 | 1.539 | 1.405 | 0.0838 |
| | Unload APC, sort trays | 95.07% | 0.1469 | 0.1396 | 1.15 | 1.559 | 1.610 | 0.4030 |
| | Unload APC, sort trays | 25.17% | 0.1469 | 0.0370 | 1.15 | 1.559 | 1.610 | 0.1067 |
| | Move APC to dock | 95.07% | 0.0354 | 0.0337 | 1.15 | 1.539 | 1.405 | 0.0838 |
| | Load APC on van | 95.07% | 0.0159 | 0.0151 | 1.15 | 1.539 | 1.844 | 0.0493 |

| | |
|---|---|
| MTM Minutes per Tray : | 0.3121 |
| Total Minutes per Tray: | 0.8953 |
| Cost per Pound: | 0.020725 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig AO Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| Mailer | Mailer Unload to staging | 100.00% | 0.0000 | 0.0000 | 1.15 | 1.000 | 1.844 | 0.0000 |
| | USPS load with pallet jack | 100.00% | 0.6426 | 0.6426 | 1.15 | 1.201 | 1.844 | 1.6366 |

| | |
|---|---|
| MTM Minutes per Pallet: | 0.6426 |
| Total Minutes per Pallet: | 1.6366 |
| Cost per Pound: | 0.002213 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, *USPS-LR-PRR-7*).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig SCF Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 1.0075 | 1.0075 | 1.15 | 1.539 | 1.844 | 3.2880 |
| | Crossdock | 100.00% | 1.4305 | 1.4305 | 1.15 | 1.539 | 1.405 | 3.5572 |
| | Load | 100.00% | 0.9331 | 0.9331 | 1.15 | 1.539 | 1.844 | 3.0451 |

| | |
|---|---|
| MTM Minutes per Pallet: | 3.3710 |
| Total Minutes per Pallet: | 9.8903 |
| Cost per Pound: | 0.005726 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Orig BMC Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 0.7355 | 0.7355 | 1.15 | 1.466 | 2.125 | 2.6349 |
| | Crossdock | 100.00% | 1.0443 | 1.0443 | 1.15 | 1.466 | 1.405 | 2.4737 |
| | Load | 100.00% | 0.6812 | 0.6812 | 1.15 | 1.466 | 2.125 | 2.4403 |

| | |
|---|---|
| MTM Minutes per Pallet: | 2.4609 |
| Total Minutes per Pallet: | 7.5488 |
| Cost per Pound: | 0.004701 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest BMC Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 0.7355 | 0.7355 | 1.15 | 1.466 | 2.125 | 2.6349 |
| | Crossdock | 100.00% | 1.0443 | 1.0443 | 1.15 | 1.466 | 1.405 | 2.4737 |
| | Load | 100.00% | 0.6812 | 0.6812 | 1.15 | 1.466 | 2.125 | 2.4403 |

| | |
|---|---|
| MTM Minutes per Pallet: | 2.4609 |
| Total Minutes per Pallet: | 7.5488 |
| Cost per Pound: | 0.003374 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Dest SCF Pallets**

| Source | Operation | (1) Probability | (2) MTM Minutes Per Pallet | (3) Col 1 * Col 2 | (4) P,F, and D | (5) MP Overhead | (6) Piggyback | (7) Col 3*Col 4* Col 5*Col 6 |
|---|---|---|---|---|---|---|---|---|
| All: | Unload | 100.00% | 1.0075 | 1.0075 | 1.15 | 1.539 | 1.844 | 3.2880 |
| | Crossdock | 100.00% | 1.4305 | 1.4305 | 1.15 | 1.539 | 1.405 | 3.5572 |
| | Load | 100.00% | 0.9331 | 0.9331 | 1.15 | 1.539 | 1.844 | 3.0451 |

| | |
|---|---|
| MTM Minutes per Pallet: | 3.3710 |
| Total Minutes per Pallet: | 9.8903 |
| Cost per Pound: | 0.004331 |

1. Probability that the container receives the operation, from Appendix E, Tables 1-4.
2. MTM minutes per container, from Appendix E, Tables 5-7.
3. Column 1 multiplied by Column 2.
4. Personal Needs, Fatigue and Delay Factor (Docket No. MC96-2, USPS-LR-PRR-7).
5. Mail Processing operation specific overhead factors for modeled costs (USPS LR-H-146, Part 7).
6. USPS LR-H-77.

**Appendix E, Table 1**
**Computation of Input Percentages for Sack Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.1257 | + | 0.0015 | = | 0.1272 | 202,484,797 | + | 2,417,670 | = | 204,902,467 |
| OSCF | 0.2224 | + | 0.0180 | = | 0.2404 | 358,265,784 | + | 28,984,222 | = | 387,250,006 |
| OBMC | 0.0288 | + | 0.2210 | = | 0.2498 | 46,406,231 | + | 356,029,134 | = | 402,435,365 |
| DBMC | 0.2570 | + | 0.0128 | = | 0.2697 | 413,884,240 | + | 20,612,149 | = | 434,496,389 |
| DSCF | 0.1060 | + | 0.0001 | = | 0.1061 | 170,814,469 | + | 128,982 | = | 170,943,451 |
| DAO | 0.0066 | + | 0.0000 | = | 0.0066 | 10,710,735 | + | 0 | = | 10,710,735 |
| Totals | 0.7486 | | 0.2534 | | 1.0000 | 1,202,566,256 | | 408,172,157 | | 1,610,738,413 |

| Origin | By Volume | Proportions | | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|---|
| OAO | 204,902,467 | 0.7740 | 0.5040 | 0.0314 | 0.0122 | 2,509,853 | DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.9686 | 0.3778 | 77,421,779 | DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | | 0.3839 | 78,662,877 | OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | | 0.1295 | 26,539,090 | OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | | 0.0965 | 19,768,867 | DBMC | 5 | Intra-BMC |
| OSCF | 465,912,883 | 0.7611 | 0.4269 | | 0.3249 | 151,381,427 | DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | | 0.4362 | 203,224,868 | OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | | 0.2314 | 107,811,561 | DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | | 0.0075 | 3,495,027 | DAO | 9 | Inter-SCF |
| OBMC | 632,199,323 | 1.0000 | | | 1.0000 | 632,199,323 | DBMC | 10 | Inter-BMC |
| DBMC | 1,237,846,007 | 0.9686 | | | 0.9686 | 1,198,977,642 | DSCF | 11 | Intra-BMC |
| | | 0.0314 | | | 0.0314 | 38,868,365 | DAO | 12 | Intra-BMC |
| DSCF | 1,369,921,093 | 1.0000 | | | 1.0000 | 1,369,921,093 | DAO | 13 | Intra-SCF |
| | 185,233,340 | 1.0000 | | | | 185,233,340 | DAO | 13 | Intra-SCF |
| DAO | 1,610,738,413 | 0.0000 | | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 358,265,784 | 76.90% |
| | Service Area | 107,647,098 | 23.10% |
| | Total | 465,912,883 | 100.00% |
| OBMC | Mailer | 46,406,231 | 7.34% |
| | Plantload | 356,029,134 | 56.32% |
| | Service Area | 229,763,958 | 36.34% |
| | Total | 632,199,323 | 100.00% |
| DBMC | Mailer | 413,884,240 | 33.44% |
| | Plantload | 20,612,149 | 1.67% |
| | Service Area | 171,150,294 | 13.83% |
| | OBMC | 632,199,323 | 51.07% |
| | Total | 1,237,846,007 | 100.00% |
| DSCF | Mailer | 170,814,469 | 10.95% |
| | Service Area | 185,233,340 | 11.91% |
| | Plantload | 128,982 | 0.01% |
| | DBMC | 1,198,977,642 | 77.10% |
| | Total | 1,555,154,433 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 2**
**Computation of Input Percentages for Tray Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.0725 | + | 0.0287 | = | 0.1012 | 141,183,739 | + | 55,771,701 | = | 196,955,440 |
| OSCF | 0.2199 | + | 0.0102 | = | 0.2301 | 427,950,170 | + | 19,910,454 | = | 447,860,624 |
| OBMC | 0.0245 | + | 0.2774 | = | 0.3019 | 47,633,647 | + | 539,915,511 | = | 587,549,158 |
| DBMC | 0.1061 | + | 0.0119 | = | 0.1181 | 206,509,516 | + | 23,256,757 | = | 229,766,275 |
| DSCF | 0.2297 | + | 0.0013 | = | 0.2310 | 447,101,914 | + | 2,506,065 | = | 449,607,980 |
| DAO | 0.0177 | + | 0.0001 | = | 0.0177 | 34,406,180 | + | 103,740 | = | 34,511,920 |
| Totals | 0.6704 | | 0.3296 | | 1.0000 | 1,304,787,168 | | 641,464,228 | | 1,946,251,397 |

| Origin | By Volume | Proportions | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|
| OAO | 196,955,440 | 0.7740 | 0.5040 | 0.0314 | 0.0122 | 2,412,510 DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.9686 | 0.3778 | 74,419,019 DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | | 0.3839 | 75,611,981 OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | | 0.1295 | 25,509,787 OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | | 0.0965 | 19,002,143 DBMC | 5 | Intra-BMC |
| OSCF | 523,472,605 | 0.7611 | 0.4269 | | 0.3249 | 170,083,383 DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | | 0.4362 | 228,331,636 OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | | 0.2314 | 121,130,795 DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | | 0.0075 | 3,926,809 DAO | 9 | Inter-SCF |
| OBMC | 841,390,581 | 1.0000 | | | 1.0000 | 841,390,581 DBMC | 10 | Inter-BMC |
| DBMC | 1,260,242,363 | 0.9686 | | | 0.9686 | 1,220,670,752 DSCF | 11 | Intra-BMC |
| | | 0.0314 | | | 0.0314 | 39,571,610 DAO | 12 | Intra-BMC |
| DSCF | 1,670,278,732 | 1.0000 | | | 1.0000 | 1,670,278,732 DAO | 13 | Intra-SCF |
| | 195,549,816 | 1.0000 | | | | 195,549,816 DAO | 13 | Intra-SCF |
| DAO | 1,946,251,397 | 0.0000 | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 427,950,170 | 81.75% |
| | Service Area | 95,522,435 | 18.25% |
| | Total | 523,472,606 | 100.00% |
| OBMC | Mailer | 47,633,647 | 5.66% |
| | Service Area | 793,756,934 | 94.34% |
| | Total | 841,390,581 | 100.00% |
| DBMC | Mailer | 206,509,516 | 16.38% |
| | Service Area | 212,342,263 | 16.85% |
| | OBMC | 841,390,581 | 66.76% |
| | Total | 1,260,242,363 | 100.00% |
| DSCF | Mailer | 447,101,914 | 23.96% |
| | Service Area | 195,549,816 | 10.48% |
| | Plantload | 2,506,065 | 0.13% |
| | DBMC | 1,220,670,752 | 65.42% |
| | Total | 1,865,828,549 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 3**
**Computation of Input Percentages for Pallet Models**

| Deposit Points | Dropshipped | | Plantloaded | | DS + PL | Dropshipped | | Plantloaded | | Total By Pounds |
|---|---|---|---|---|---|---|---|---|---|---|
| OAO | 0.0018 | + | 0.0003 | = | 0.0022 | 10,003,115 | + | 1,883,029 | = | 11,886,144 |
| OSCF | 0.0341 | + | 0.0017 | = | 0.0359 | 185,293,570 | + | 9,315,064 | = | 194,608,635 |
| OBMC | 0.0245 | + | 0.0825 | = | 0.1070 | 133,131,284 | + | 447,504,320 | = | 580,635,604 |
| DBMC | 0.3543 | + | 0.0068 | = | 0.3610 | 1,922,333,429 | + | 36,643,693 | = | 1,958,977,122 |
| DSCF | 0.4752 | + | 0.0086 | = | 0.4838 | 2,578,551,105 | + | 46,734,109 | = | 2,625,285,213 |
| DAO | 0.0101 | + | 0.0000 | = | 0.0101 | 54,705,328 | + | 0 | = | 54,705,328 |
| Totals | 0.9001 | | 0.0999 | | 1.0000 | 4,884,017,831 | | 542,080,215 | | 5,426,098,046 |

| Origin | By Volume | Proportions | | Total Pct | By Pounds | Dest | Flow | Type of Trans |
|---|---|---|---|---|---|---|---|---|
| OAO | 11,886,144 | 0.7740 | 0.5040 | 0.0122 | 145,564 | DAO | 1 | Intra-SCF |
| | | 0.7740 | 0.5040 | 0.3778 | 4,491,144 | DSCF | 2 | Intra-SCF |
| | | 0.7740 | 0.4960 | 0.3839 | 4,563,138 | OSCF | 3 | Intra-SCF |
| | | 0.2260 | 0.5731 | 0.1295 | 1,539,500 | OBMC | 4 | Intra-BMC |
| | | 0.2260 | 0.4269 | 0.0965 | 1,146,768 | DBMC | 5 | Intra-BMC |
| OSCF | 199,171,773 | 0.7611 | 0.4269 | 0.3249 | 64,713,616 | DBMC | 6 | Intra-BMC |
| | | 0.7611 | 0.5731 | 0.4362 | 86,876,021 | OBMC | 7 | Intra-BMC |
| | | 0.2389 | 0.9686 | 0.2314 | 46,068,057 | DSCF | 8 | Inter-SCF |
| | | 0.2389 | 0.0314 | 0.0075 | 1,494,079 | DAO | 9 | Inter-SCF |
| OBMC | 580,051,125 | 1.0000 | | 1.0000 | 580,051,125 | DBMC | 10 | Inter-BMC |
| DBMC | 2,693,888,631 | 0.9686 | | 0.9686 | 2,609,300,528 | DSCF | 11 | Intra-BMC |
| | | 0.0314 | | 0.0314 | 84,588,103 | DAO | 12 | Intra-BMC |
| DSCF | 5,234,585,742 | 1.0000 | | 1.0000 | 5,234,585,742 | DAO | 13 | Intra-SCF |
| | 50,579,201 | 1.0000 | | | 50,579,201 | DAO | 13 | Intra-SCF |
| DAO | 5,426,098,046 | 0.0000 | | | | | | |

| Deposit Points | Source | Volume | Percentage |
|---|---|---|---|
| OSCF | Mailer | 185,293,570 | 93.03% |
| | Service Area | 13,878,202 | 6.97% |
| | Total | 199,171,773 | 100.00% |
| OBMC | Mailer | 133,131,284 | 19.50% |
| | Service Area | 535,919,841 | 80.10% |
| | Total | 580,051,125 | 100.00% |
| DBMC | Mailer | 1,922,333,429 | 71.36% |
| | Service Area | 102,504,077 | 3.81% |
| | OBMC | 580,051,125 | 24.84% |
| | Total | 2,693,888,631 | 100.00% |
| DSCF | Mailer | 2,578,551,105 | 48.79% |
| | Service Area | 97,313,310 | 1.84% |
| | DBMC | 2,609,300,528 | 49.37% |
| | Total | 5,285,164,943 | 100.00% |

This table assigns TY pounds for each deposit point (USPS LR-H-105 and USPS LR-H-195) to the mail flow proportions (Appendix A, Table 3), in order to calculate the probabilities that deposited mail will receive an operation or handling.

**Appendix E, Table 4**
**Input Percentages for Sack/Tray Models**

| Facility | Container | Band | Manual Induct APC/OTR | SSM | Roller Table | Manual Induct Pallet | Direct Runout (bedload) | Direct Runout (container) | Sawtooth |
|---|---|---|---|---|---|---|---|---|---|
| OSCF | | | | | | | | | |
| | Tray | 69.97% | | | | | | | |
| OBMC | | | | | | | | | |
| | Sack | | 10.00% | | | | | | |
| | Tray | | 10.00% | 78.99% | 21.01% | 50.00% | | | |
| DBMC | | | | | | | | | |
| | Sack | | 10.00% | | | | 71.77% | 1.75% | 26.48% |
| | Tray | | 10.00% | 78.99% | 21.01% | 50.00% | 71.77% | 1.75% | 26.48% |
| DSCF | | | | | | | | | |
| | Sack | | | 11.13% | 88.87% | | | 73.52% | 26.48% |
| | Tray | | | 4.93% | 95.07% | | | 73.52% | 26.48% |

| Source | Mail at OBMC | Pct | Vol on OBMC SSM | Mail at DBMC | Pct | Vol on DBMC SSM |
|---|---|---|---|---|---|---|
| Mailer | 40,661,319 | 36.80% | 32,118,264 | 106,142,710 | 39.51% | 83,841,836 |
| AO | 10,703,890 | 9.69% | 0 | 7,973,287 | 2.97% | 0 |
| SCF | 59,131,110 | 53.51% | 55,162,476 | 44,046,538 | 16.39% | 41,090,317 |
| OBMC | | | | *110,496,319* | *41.13%* | *87,280,740* |
| Totals | 110,496,319 | | | 268,658,854 | | 212,212,893 |

| Estimated Total Trays Banded at OSCFs | | | | Total Trays Handled at OSCFs (see Appendix E, Table 2) | Proportion of Trays Banded at OSCFs | | | |
|---|---|---|---|---|---|---|---|---|
| 55,162,476 | + 41,090,317 | = | 96,252,793 | 523,472,605 | 96,252,793 | / | 523,472,605 | = 18.39% |

This table consists of input percentages for different containers and deposit points. It is the exact same table used by witness Acheson in Docket Nos. MC95-1 (USPS LR-MCR-27) and MC96-2 (USPS LR-PRR-7).

**Appendix F**

## Estimation of Nontransportation Costs Avoided by Periodicals Regular Rate Flats Mail Entered at Destination Sectional Center Facilities and Delivery Units

1.0 Productivities Originating in USPS-T-14, Docket No. R84-1

| Productivity (units per manhour) | with variability | Operation | Source |
|---|---|---|---|
| 135.9 | 187.19 | unload sacks from van to in-house countainer (IHC) - (SCF) | Exhibit USPS-T-14KK |
| 20.0 | 27.55 | move all-purpose container (APC), IHC to outbound dock - (SCF) | Exhibit USPS-T-14P |
| 138.3 | 260.94 | load sacks to van from IHC - (BMC) | Exhibit USPS-T-14H |
| 145.0 | 199.72 | unload sacks to conveyor - (SCF) | Exhibit USPS-T-14P |
| 153.0 | 210.74 | load sacks to van from extendible conveyor - (SCF) | Exhibit USPS-T-14P |
| 346.3 | 349.80 | sack sorter - (SCF) | Exhibit USPS-T-14P |
| 12.6 | 23.77 | unload pallets - (BMC) | Exhibit USPS-T-14H |
| 8.6 | 11.85 | move pallets to outbound dock - (SCF) | Exhibit USPS-T-14KK |
| 25.6 | 48.30 | load pallets to van - (BMC) | Exhibit USPS-T-14H |
| 249.3 | 470.38 | unload sacks to extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 311.3 | 587.36 | load sacks to van from extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 28.7 | 54.15 | load containers to van - (BMC) | Exhibit USPS-T-14H |
| 168.7 | 170.40 | load sacks from roller table to IHC - (BMC) | Exhibit USPS-T-14H |
| 391.9 | 395.86 | sack sorter - (BMC) | Exhibit USPS-T-14H |
| 8.1 | 15.28 | crossdock pallets - (BMC) | Exhibit USPS-T-14H |
| 82.3 | 122.84 | primary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 154.6 | 230.75 | secondary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 186.1 | 277.76 | load NMOs to van from IHC - (BMC) | Exhibit USPS-T-14H |

2.0 Container Conversion Factors Originating in USPS-T-14, Docket No. R84-1

| Container Conversion Factor | Description | Source |
|---|---|---|
| 26.5 | sacks per IHC | Exhibit USPS-T-14KK |
| 40.0 | sacks per BMC container | Exhibit USPS-T-14KK |

3.0 Percentage of Sack Flow from BMC Sack Sorters Originating in USPS-T-14, Docket No. R84-1

| Percentage | Flow Description | Source |
|---|---|---|
| 73.79% | sack sorter machine (SSM) to load to van from extendible conveyor | Exhibit USPS-T-14II |
| 16.01% | SSM to roller table to BMC containers and load BMC containers to van | Exhibit USPS-T-14II |
| 10.20% | SSM to roller table to in-house containers and load sacks to van from in-house containers | Exhibit USPS-T-14II |

**Appendix F, Table 1**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at SCFs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percent Machinable | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks from van to in-house containe | 187.1901 | 31.72 | 11.13% | 1.844 | $25.45 | $0.007022 [2] | 1.007 | $0.007071 |
| | | Move APC to outbound dock | 730.0275 [1] | 31.72 | 11.13% | 1.405 | $25.45 | $0.001372 [2] | 1.007 | $0.001382 |
| | | Load sacks to van | 260.9434 | 31.72 | 11.13% | 1.844 | $25.45 | $0.005038 [2] | 1.007 | $0.005073 |
| | Mechanized | Unload sacks to conveyor | 199.7245 | 31.72 | 11.13% | 1.844 | $25.45 | $0.000825 | 1.007 | $0.000830 |
| | | Load sacks to van from extendible conveyor | 210.7438 | 31.72 | 11.13% | 1.844 | $25.45 | $0.000782 | 1.007 | $0.000787 |
| | SSM | Sack sorter | 349.798 | 31.72 | 11.13% | 1.942 | $25.45 | $0.000496 | 1.007 | $0.000499 |
| Pallets | Manual | Unload pallets | 23.77358 | 1658.93 | N/A | 1.844 | $25.45 | $0.001190 | 1.007 | $0.001198 |
| | | Move pallets to outbound dock | 11.84573 | 1658.93 | N/A | 1.405 | $25.45 | $0.001819 | 1.007 | $0.001832 |
| | | Load pallets to van | 48.30189 | 1658.93 | N/A | 1.844 | $25.45 | $0.000586 | 1.007 | $0.000590 |
| | | Weighted Average per Piece: | $0.008949 [3] | | | | | | | |
| | | Weighted Average per Pound: | $0.019229 [4] | | | | | | | |

Additional SCF Handling Costs Avoided by DDU Mail

| | |
|---|---|
| Proportion of Mail flowing DBMC to DDU via DSCF | 96.86% |
| Effective Additional DSCF Cost Avoided--Per Piece | $0.008668 |
| Effective Additional DSCF Cost Avoided--Per Pound | $0.018625 |

1. Includes a container conversion factor of 26.5 sacks per IHC from Appendix F, Section 2.0.
2. Formula is (1-Column (3)) for manual operations.
3. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
4. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix F, Section 1.0.
Column 2: Appendix F, Section 4.0.
Column 3: Appendix F, Section 4.0.
Column 4: Appendix F, Section 4.0.
Column 5: Appendix F, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix F, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix F, Table 2**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at BMCs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percentage of Sack Flow from BMC Sack Sorters | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) BMC Realization Factor | (9) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks to extendible conveyor | 470.3774 | 31.72 | N/A | 2.125 | $25.45 | $0.003624 | 1.007 | 0.9713 | $0.003545 |
| | | Load sacks to van from extendible conveyo | 587.3585 | 31.72 | 73.79% | 2.125 | $25.45 | $0.002142 | 1.007 | 0.9713 | $0.002095 |
| | | Load sacks from roller table to IHC | 170.404 | 31.72 | 16.01% | 1.61 | $25.45 | $0.001213 | 1.007 | 0.9713 | $0.001187 |
| | | Load containers to van | 2166.038 [1] | 31.72 | 16.01% | 2.125 | $25.45 | $0.000126 | 1.007 | 0.9713 | $0.000123 |
| | | Load sacks from roller table to IHC | 170.404 | 31.72 | 10.20% | 1.61 | $25.45 | $0.000773 | 1.007 | 0.9713 | $0.000756 |
| | | Load sacks to van from IHC | 260.9434 | 31.72 | 10.20% | 2.125 | $25.45 | $0.000666 | 1.007 | 0.9713 | $0.000652 |
| | SSM | Sack sorter | 395.8586 | 31.72 | N/A | 2.414 | $25.45 | $0.004892 | 1.007 | 0.9713 | $0.004785 |
| Pallets | Manual | Unload pallets | 23.77358 | 1658.93 | N/A | 2.125 | $25.45 | $0.001371 | 1.007 | 0.9713 | $0.001341 |
| | | Crossdock pallets | 15.28302 | 1658.93 | N/A | 1.405 | $25.45 | $0.001410 | 1.007 | 0.9713 | $0.001379 |
| | | Load pallets to van | 48.30189 | 1658.93 | N/A | 2.125 | $25.45 | $0.000678 | 1.007 | 0.9713 | $0.000660 |
| | | Weighted Average per Piece: | $0.007707 [2] | | | | | | | | |
| | | Weighted Average per Pound: | $0.018561 [3] | | | | | | | | |

1. Includes a container conversion factor of 40 sacks per BMC container from Appendix F, Section 2.0.
2. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
3. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix F, Section 1.0.
Column 2: Appendix F, Section 4.0.
Column 3: Appendix F, Section 3.0.
Column 4: Appendix F, Section 4.0.
Column 5: Appendix F, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix F, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix F, Table 3**
**SCF Rate Periodicals Mail**
**Handling Costs Avoided**

| Facility Type | Cost/Piece | Cost/Pound |
|---|---|---|
| SCF | $0.008949 | $0.019229 |
| BMC | $0.007707 | $0.016561 |
| Total Nontransportation Cost Savings-DSCF Mail | $0.009497 [1] | $0.020406 [1] |
| Total Nontransportation Cost Savings-DDU Mail | $ 0.018166 [2] | $ 0.039032 [2] |

[1] Total Nontransportation Cost Savings equals 80% of BMC costs plus 20% of total costs.

[2] Total Nontransportation Cost Savings for DDU mail is the cost savings for DSCF mail plus the additional savings from Table 1.

Appendix G

## Estimation of Nontransportation Costs Avoided by Periodicals Nonprofit Flats Mail Entered at Destination Sectional Center Facilities and Delivery Units

### 1.0 Productivities Originating in USPS-T-14, Docket No. R84-1

| Productivity (units per manhour) | with variability | Operation | Source |
|---|---|---|---|
| 135.9 | 187.19 | unload sacks from van to in-house countainer (IHC) - (SCF) | Exhibit USPS-T-14KK |
| 20.0 | 27.55 | move all-purpose container (APC), IHC to outbound dock - (SCF) | Exhibit USPS-T-14P |
| 138.3 | 260.94 | load sacks to van from IHC - (BMC) | Exhibit USPS-T-14H |
| 145.0 | 199.72 | unload sacks to conveyor - (SCF) | Exhibit USPS-T-14P |
| 153.0 | 210.74 | load sacks to van from extendible conveyor - (SCF) | Exhibit USPS-T-14P |
| 346.3 | 349.80 | sack sorter - (SCF) | Exhibit USPS-T-14P |
| 12.6 | 23.77 | unload pallets - (BMC) | Exhibit USPS-T-14H |
| 8.6 | 11.85 | move pallets to outbound dock - (SCF) | Exhibit USPS-T-14KK |
| 25.6 | 48.30 | load pallets to van - (BMC) | Exhibit USPS-T-14H |
| 249.3 | 470.38 | unload sacks to extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 311.3 | 587.36 | load sacks to van from extendible conveyor - (BMC) | Exhibit USPS-T-14H |
| 28.7 | 54.15 | load containers to van - (BMC) | Exhibit USPS-T-14H |
| 168.7 | 170.40 | load sacks from roller table to IHC - (BMC) | Exhibit USPS-T-14H |
| 391.9 | 395.66 | sack sorter - (BMC) | Exhibit USPS-T-14H |
| 8.1 | 15.28 | crossdock pallets - (BMC) | Exhibit USPS-T-14H |
| 82.3 | 122.84 | primary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 154.6 | 230.75 | secondary NMO sort - (BMC) | Exhibit USPS-T-14H |
| 186.1 | 277.76 | load NMOs to van from IHC - (BMC) | Exhibit USPS-T-14H |

### 2.0 Container Conversion Factors Originating in USPS-T-14, Docket No. R84-1

| Container Conversion Factor | Description | Source |
|---|---|---|
| 26.5 | sacks per IHC | Exhibit USPS-T-14KK |
| 40.0 | sacks per BMC container | Exhibit USPS-T-14KK |

### 3.0 Percentage of Sack Flow from BMC Sack Sorters Originating in USPS-T-14, Docket No. R84-1

| Percentage | Flow Description | Source |
|---|---|---|
| 73.79% | sack sorter machine (SSM) to load to van from extendible conveyor | Exhibit USPS-T-14II |
| 16.01% | SSM to roller table to BMC containers and load BMC containers to van | Exhibit USPS-T-14II |
| 10.20% | SSM to roller table to in-house containers and load sacks to van from in-house containers | Exhibit USPS-T-14II |

**Appendix G, Table 1**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at SCFs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percent Machinable | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks from van to in-house containe | 187.1901 [1] | 63.83 | 11.13% | 1.844 | $25.45 | $0.003490 [2] | 1.011 | $0.003528 |
| | | Move APC to outbound dock | 730.0275 [1] | 63.83 | 11.13% | 1.405 | $25.45 | $0.000882 [2] | 1.011 | $0.000889 |
| | | Load sacks to van | 260.9434 | 63.83 | 11.13% | 1.844 | $25.45 | $0.002503 [2] | 1.011 | $0.002531 |
| | Mechanized | Unload sacks to conveyor | 199.7245 | 63.83 | 11.13% | 1.844 | $25.45 | $0.000410 | 1.011 | $0.000414 |
| | | Load sacks to van from extendible conveyor | 210.7438 | 63.83 | 11.13% | 1.844 | $25.45 | $0.000388 | 1.011 | $0.000393 |
| | SSM | Sack sorter | 349.798 | 63.83 | 11.13% | 1.942 | $25.45 | $0.000246 | 1.011 | $0.000249 |
| Pallets | Manual | Unload pallets | 23.77358 | 3161.89 | N/A | 1.844 | $25.45 | $0.000624 | 1.011 | $0.000631 |
| | | Move pallets to outbound dock | 11.84573 | 3161.89 | N/A | 1.405 | $25.45 | $0.000954 | 1.011 | $0.000965 |
| | | Load pallets to van | 48.30189 | 3161.89 | N/A | 1.844 | $25.45 | $0.000307 | 1.011 | $0.000311 |
| | | Weighted Average per Piece: | | | | | | | | $0.004802 [3] |
| | | Weighted Average per Pound: | | | | | | | | $0.017809 [4] |

Additional SCF Handling Costs Avoided by DDU Mail

| | |
|---|---|
| Proportion of Mail flowing DBMC to DDU via DSCF | 96.86% |
| Effective Additional DSCF Cost Avoided--Per Piece | $0.004651 |
| Effective Additional DSCF Cost Avoided--Per Pound | $0.017250 |

1. Includes a container conversion factor of 26.5 sacks per IHC from Appendix G, Section 2.0.
2. Formula is (1-Column (3)) for manual operations.
3. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
4. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix G, Section 1.0.
Column 2: Appendix G, Section 4.0.
Column 3: Appendix G, Section 4.0.
Column 4: Appendix G, Section 4.0.
Column 5: Appendix G, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix G, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix G, Table 2**

**Periodicals Mail, SCF Rate**
**Calculations of Crossdocking Costs at BMCs**

| | | | (1) Productivity | (2) Pieces per sack or pallet | (3) Percentage of Sack Flow from BMC Sack Sorters | (4) Piggyback Factor | (5) Wage Rate | (6) ((Col. 3*Col. 4 *Col. 5)/ (Col. 1*Col. 2)) | (7) Premium Pay Factor | (8) BMC Realization Factor | (9) Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sacks | Manual | Unload sacks to extendible conveyor | 470.3774 | 63.83 | N/A | 2.125 | $25.45 | $0.001801 | 1.011 | 0.9713 | $0.001768 |
| | | Load sacks to van from extendible conveyo | 587.3585 | 63.83 | 73.79% | 2.125 | $25.45 | $0.001064 | 1.011 | 0.9713 | $0.001045 |
| | | Load sacks from roller table to IHC | 170.404 | 63.83 | 16.01% | 1.61 | $25.45 | $0.000603 | 1.011 | 0.9713 | $0.000592 |
| | | Load containers to van | 2166.038 [1] | 63.83 | 16.01% | 2.125 | $25.45 | $0.000063 | 1.011 | 0.9713 | $0.000061 |
| | | Load sacks from roller table to IHC | 170.404 | 63.83 | 10.20% | 1.61 | $25.45 | $0.000384 | 1.011 | 0.9713 | $0.000377 |
| | | Load sacks to van from IHC | 260.9434 | 63.83 | 10.20% | 2.125 | $25.45 | $0.000331 | 1.011 | 0.9713 | $0.000325 |
| | SSM | Sack sorter | 396.8586 | 63.83 | N/A | 2.414 | $25.45 | $0.002431 | 1.011 | 0.9713 | $0.002387 |
| Pallets | Manual | Unload pallets | 23.77358 | 3161.89 | N/A | 2.125 | $25.45 | $0.000719 | 1.011 | 0.9713 | $0.000706 |
| | | Crossdock pallets | 15.28302 | 3161.89 | N/A | 1.405 | $25.45 | $0.000740 | 1.011 | 0.9713 | $0.000726 |
| | | Load pallets to van | 48.30189 | 3161.89 | N/A | 2.125 | $25.45 | $0.000354 | 1.011 | 0.9713 | $0.000348 |
| | | Weighted Average per Piece: | $0.004126 [2] | | | | | | | | |
| | | Weighted Average per Pound: | $0.015299 [3] | | | | | | | | |

1. Includes a container conversion factor of 40 sacks per BMC container from Appendix G, Section 2.0.
2. Sum of the costs for each operation multiplied by the proportion that is in sacks and pallets.
3. Weighted Average per Piece multiplied by Test Year Pieces per Pound.

Column 1: Productivities from Appendix G, Section 1.0.
Column 2: Appendix G, Section 4.0.
Column 3: Appendix G, Section 3.0.
Column 4: Appendix G, Section 4.0.
Column 5: Appendix G, Section 4.0.
Column 6: ((Column 3*Column 4*Column 5)/(Column 1*Column 2))
Column 7: Appendix G, Section 4.0.
Column 8: Column 6 multiplied by Column 7.

**Appendix G, Table 3**
**SCF Rate Nonprofit Periodicals Mail**
**Handling Costs Avoided**

| Facility Type | Cost/Piece | Cost/Pound |
|---|---|---|
| SCF | $0.004802 | $0.017809 |
| BMC | $0.004125 | $0.015299 |
| Total Nontransportation Cost Savings-DSCF Mail | $0.005085 [1] | $0.018861 [1] |
| Total Nontransportation Cost Savings-DDU Mail | $ 0.009737 [2] | $ 0.036111 [2] |

[1] Total Nontransportation Cost Savings equals 80% of BMC costs plus 20% of total costs.

[2] Total Nontransportation Cost Savings for DDU mail is the cost savings for DSCF mail plus the additional savings from Table 1.

CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

Michael T. Tidwell

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260-1145
November 20, 1997